

## Inside Dope

By GEORGE  
F. TAUBENECK



Learn to live and laugh —  
thus delay your epitaph

### Stories of the Week It's Criminal!

Outer Space Notes  
Sport of Democracy  
Well Done, Stout Fella!  
Odd But Interesting

### Stories of the Week

Governor "Goodie" Knight of California was interviewed at the recent Conference of Governors.

"Tell us what your wife will be wearing at the banquet," a girl reporter prompted.

"My salary," he snapped, husband-like.

"Yass," snooted Mrs. Boston, "my ancestors came over on the Mayflower."

"Lucky for you," ritzed Mrs. New Jersey. "Immigration laws are much stricter nowadays."

"My wife's thumb is so green," it was overheard, "that my back aches all summer."

### It's Criminal!

Here's proof of air conditioning's importance!

Harry Patterson, assistant city service director of Columbus, Ohio, was suspended 10 days for being an hour and 15 minutes late in turning on the air conditioning in city council chambers.

The suspension cost Patterson \$235 in salary.

Served him right, too.

### Outer Space Notes

Been wondering about Outer Space? What's out there, and who—if anyone?

Someday you may not be bothered anymore by these wonderings. Scientists now are scanning the skies with radio telescopes which "hear" many times farther than the two billion light years' limit of the Palomar optical telescope in California.

With more than 150 radio telescopes operating throughout the world, news from the Milky Way some day may be translated. Could be that somebody from Arcturus or Sirius is trying to tell us something. (People from Mars and Venus can fly saucers here, some say, but inhabitants of distant stars must rely on long-distance radio to communicate with us!)

America's biggest new "outer space" radio-signal observatory will be located in the hills of West Virginia in a large amphitheater. This spot is considered ideal for viewing the "radio sky," because it is sheltered from

## Strikes In So. California, N.Y.C. Halt Air Conditioning Work

LOS ANGELES—Strike conditions cause air conditioning and other work performed by sheet metal workers of the three journeymen locals in Los Angeles, Orange, San Bernardino, and Riverside counties to remain at a standstill.

Federal commissioner John Fenton mediated a meeting Tuesday between the union and the sheet metal trades administrative council.

Some adjustments were made on administrative terms of the proposed contract, but two sides of the dispute remained apart on wages. Union asks 75 cents an hour from a two-year package deal. Employers offer 35 cents, (Concluded on Back Page, Col. 2)

## NEPA Orders Two Non-Home Cooling Standard Changes

LOS ANGELES—Two significant changes in its standard for the installation of air conditioning and ventilating systems of other than residential type (90 A) were made by the National Fire Protection Association at its annual convention here.

The convention also heard a progress report on a proposed standard for cooling towers and approved more than 50 changes in the standard for the installation of oil burning equipment (31).

The changes in the air conditioning standard, made by NFPA's committee on air conditioning, add a note to paragraph 114 (a) defining fire-resistive lining for ducts and add new paragraphs 126 (b) and (c) dealing with ducts installed in fire-resistive ceilings.

The revision in this latter case, said Richard E. Stevens, NFPA engineer, was brought

## Bill Cuts FHA Down Payments

WASHINGTON, D. C.—Designed to stimulate construction of homes and make them easier to buy, a new housing bill authorizing lower Federal Housing Administration minimum down payment requirements has been passed by Congress and sent to the White House.

FHA is drawing up plans for a cut in minimum down payments it requires on the mortgages it insures. But the reductions may not be put into effect right away because of inflationary effects, it was indicated. The bill would pump nearly \$1.7 billion into the housing market.

At present FHA requires that home buyers put down at least 5% of the first \$9,000 of the appraised value of a new home and

NEW YORK CITY, July 11—Air conditioning installations in the metropolitan New York area were being halted, and the whole building industry seriously affected, by a strike of the sheet metal and steamfitters local unions.

A bargaining session on July 9 yielded no results, and at the time this story is written, no future bargaining sessions had been set. The entire building industry is affected because in much construction other work cannot proceed until the piping and sheet metal work has been completed.

The sheet metal negotiations are attracting the most attention from the industry, the reason being that in addition to a 75 cents an hour wage increase, the union has listed some 23 other demands that would dictate to the installing contractor

## BEHIND PAGE ONE . . .

### Cooling Existing Office Bldg.

Positive Pressure Reduces Sand Infiltration In West Texas Installation..... 6

### Successful Contractor—

Must Know Costs, Delegate Responsibility, Veteran Detroit Contractor Advises..... 16

### Room Air Conditioner Selling

Sell Benefits, Not Price, To Keep Customer from Banking Money, Haas Says..... 22

### Refrigeration System Contaminants (1)

Report on Causes, Nature of Contaminants..... 28

### Small Market Refrigeration

'Concentrated Selling' Is Theme of Store Which Has 158 Ft. of Refrigerated Display..... 30

### Refrigeration Problems

Hot Weather Hints (3)..... 32

### Servicing Auto Air Conditioners

Artic-Kar (2) ..... 37

## 2 Giant Centrifugal Units To Fully Air Condition Ill. Industrial Plant

LA CROSSE, Wis.—The Trane Co. has received an order to provide air conditioning equipment for what is believed will be the largest completely air conditioned industrial project in the entire midwest and possibly in the country Trane President D. C. Minard revealed.

The new factory is being con-

## Air-Cooled Roof Unit Introduced by Bohn

DANVILLE, Ill.—A new air-cooled, self-contained air conditioner for roof top mounting on commercial and small industrial buildings has been announced here by the Betz Div. of Bohn Aluminum & Brass Corp.

The new Bohn unit is made in three sizes: the RTA 36 at 3 tons capacity, the RTA 60 at 5 tons, and the RTA 90 at 7½ tons. Introduced in conjunction with Bohn's "New Angle" program, it represents a broad-

structed for Teletype Corp., a subsidiary of Western Electric Co., in Skokie, Ill. According to Minard, Trane is to provide 2,500 tons of cooling through two giant centrifugal water chilling machines called "CentraVac."

The single-story building will provide almost 600,000 sq. ft. of comfort cooled working space for employees. The air conditioning system has been designed for 2,500 employees.

By maintaining constant tem-

### Commercial Section Next Week

**SUPERMARKET CHAIN** installs expensive dual systems in warehouse to protect against food losses in the belief that added costs will be offset by savings. Read about it in the Commercial Refrigeration Section of next week's NEWS.

YORK, Pa.—Several executive changes, including promotion of R. K. Serfass from general manager of the Industrial Div. to director of operations, were disclosed following a recent meeting of the supervisory board of directors of York Div., Borg-Warner Corp. Serfass was re-elected a vice president.

In addition, it was learned that J. K. Loudon has resigned as vice president and general manager of York's Commercial Div. Loudon resigned prior to the board meeting, according to a company spokesman.

Two new vice presidents were elected by the board. William F. Lynne, formerly secretary-treasurer, was elected vice president and director of finance, and John J. Floreth was promoted from central district manager,

YORK, Pa.—Henry M. Haase, president and chief executive officer of York Div., Borg-Warner Corp., revealed last week that company officials are studying possible relocation of some manufacturing facilities.

A statement issued by Haase indicated it's within the realm of possibility that a good part of the Commercial Div. operations—primarily room air conditioners and residential air conditioning systems—will be moved to Decatur, Ill.

"Room air conditioners now being manufactured in the Grantley plant, and some new products currently being developed, may be moved from York," Haase said. "Decatur, Ill., home of a modern Borg-Warner plant, is the site currently receiving serious consideration."

He said the Industrial Div. operations at the West York plant may eventually be moved

## James Succeeds Resch as McQuay Chief Executive

MINNEAPOLIS — Byron E. James, formerly executive vice president, was elected president of McQuay, Inc. manufacturer of air conditioning, heating, and commercial refrigeration equipment, at a special meeting of the board of directors. He succeeds Roy J. Resch who passed away June 13.

At the same time, directors elected Jay R. Resch and Kenneth R. Lundberg vice presidents. Resch also continues as secretary of the company.

James joined McQuay as chief engineer for the company in 1949, was promoted to vice president in charge of engineering and research in January, 1952, and was elected a director of the company in November, (Concluded on Page 35, Col. 3)

## Nashville Area Freezer Sales Jump

NASHVILLE, Tenn.—Home freezer sales by area dealers in May jumped to 378 this year as compared with 271 in 1956. This brought total sales for the first five months to 953 as against 708 last year, according to Nashville Electric Service.

There were 715 refrigerators sold during May, compared with 796 for the same month in 1956. The over-all five-month total reached 2,681, a drop from the 3,044 for the same period last year, it was added.



## ARI Group Works on Standard on Heat Pump Heating, Cooling Cycle

WASHINGTON, D. C.—The Air-Conditioning & Refrigeration Institute announced that a new ARI standard covering both heating and cooling cycles of unitary heat pumps is being prepared under the direction of a special heat pump sub-committee of the Engineering Committee of the Self-Contained and Residential Air Conditioning Section.

The group, set up to meet the increasing need for such a standard, held its first meeting at ARI headquarters here on June 17 and worked over an initial draft of the proposed standard.

Present at the meeting were W. L. McGrath, Carrier Corp., chairman of the sub-committee; G. L. Biehn, Westinghouse

Electric Corp.; R. P. Cook, Typhoon Heat Pump Co., Div. of Hupp Corp.; A. E. Diehl, York Div., Borg-Warner Corp.; D. W. Lynch, General Electric Co.; and R. H. Stebbings, Westinghouse.

## Milwaukee May Avert Water Charge Battle

MILWAUKEE—With responsibility reportedly shifted from city hall to the state public service commission, the city may avert a showdown on the fight to require owners of air conditioners without a water-conserving device to pay an additional charge.

Ald. Matt F. Schimenz, chairman of common council's util-

ties committee and a spokesman for the proposed "tough" ordinance, said the PSC has indicated it will enter the local case.

Schimenz added that he is pleased the responsibility has been shifted. He thought that only a weakened ordinance would pass council.

Designed to restrict use of water in water-cooled air conditioning equipment, the ordinance is said to be linked with the waterworks expansion program and is not intended primarily to produce new revenue for the city.

An air conditioner without a water-conserving device would be charged \$20 each year for each ton of refrigeration capacity beyond 3 tons. It has been opposed by air conditioning manufacturers and other businessmen.

The PSC has scheduled a hearing July 29 at the local courthouse on the proposition.

## Way Named To Head Merged Firm as UsAirco Absorbs Hughes-Keenan

DELAWARE, Ohio—Merger of Hughes-Keenan Corp. here into United States Air Conditioning Corp., of Philadelphia, and retention of the latter name, was announced here by Glenn W. Way who becomes president and chairman of the executive committee of UsAirco.



G. W. Way

The merger was approved at a special meeting of UsAirco stockholders at the corporation offices in Wilmington, Del., on May 29.

Way said that Hughes-Keenan, of which he was president, has become a division of UsAirco in the manufacture and

selling of wheel-type material handling motive cranes and delivery-type truck bodies. Hughes-Keenan was formed in 1947 by the consolidation of Hughes-Keenan Co., Correct Mfg. Co., and Burkett Closed Body Co.

In addition to Way, other officers of the merged corporation are:

Earl A. Darr, director and board chairman; David E. Feinberg, director and vice president UsAirco Div.; Meyer Rosen, director and vice president, Floral City Heater Div.; Harry A. Humes, director and secretary-treasurer; Mortimer B. Burnside, Francis A. Devin, and Herbert W. Joyce, directors; Leslie P. Hansen, vice president; Geo. Kucera, assistant secretary and assistant treasurer; W. E. Post, vice president; and P. M. Plymire, assistant treasurer.

## UAW Ends 53-Day Strike At Coleman, Returns to Work on 2-Yr. Contract

WICHITA, Kan. — Striking production and maintenance workers (UAW-CIO) have agreed to a new two-year contract following a 53-day strike against the Coleman Co., Inc., the firm announced.

Workers returned to their jobs July 1.

The strike, first in the 57 years the company has been in business, "failed to halt production and resulted in no gains beyond what the company offered the union in its last pre-strike proposal," according to Coleman officials.

A majority of the approximately 900 strikers had returned to work before the strike was 30 days old, Sheldon Coleman, president said. At the end of six weeks, production was more than 80% of normal, he further stated.

The strike occurred May 9, when the company refused UAW-CIO demands for a union shop. The demand was later withdrawn, the union agreeing to a membership security clause similar to one contained in the previous contract.

The company maintained a firm position throughout the strike, claiming that strong competition in the heating and air conditioning industry made granting of higher wages and more fringe benefits economically unsound.

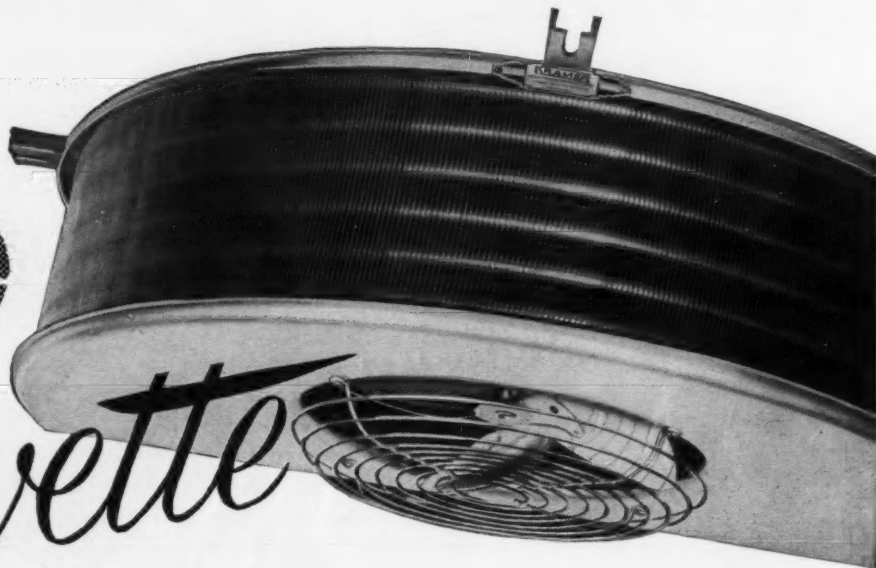
## Edge Heads Seattle Group's Officers

SEATTLE—Northwest Appliance & Television Association here, which numbers 61 members, has announced election of the following officers for this year:

President, Fred Egge, Ware & Hosey; first vice president, Jack Stewart, Stewart-Sullivan Electric Co.; second vice president, Henry Murray, Henry Murray's; and executive secretary, David M. Lombardo, Organization Service Bureau.

The group is an affiliate of the National Appliance & Radio-TV Dealers Association.

# Large Curvette



by **KRAMER**

## HINGED PAN quick and easy access

Praised for years by installation and service men.

Built-in Heat Exchanger  
NO RUSTING — polished aluminum casing



WRITE NOW  
FOR  
BULLETIN C-192-7



SMALL CURVETTE  
800 to 5,600 BTU's Per Hour



RADIAL  
2,500 to 23,000 BTU's Per Hour



COOLMASTER  
2,500 to 60,000 BTU's Per Hour



KAY-TEE  
2,500 to 12,000 BTU's Per Hour

**KRAMER TRENTON CO. • Trenton 5, N.J.**



**Boiler & Air Conditioning Mfrs. Assn.**

## Newly-Formed Heating, Cooling Group To Publish Monthly 'Certified' Ratings

VALLEY STREAM, N. Y.—At a recent meeting of the newly-formed BACMA (Boiler and Air Conditioning Manufacturers Association), Fred R. Attwood of Spi-Rol-Fin Corp., was elected president and Gustav H. Koven of Waterfilm Boiler Co. and L. O. Koven Co., was elected vice president.

At the same meeting, M. C. Turpin, for many years executive secretary of the American Society of Refrigerating Engineers, was appointed executive secretary of the new association.

Representatives of the following companies attended: Penn Boiler & Burner Mfg. Corp.; Fostoria Pressed Steel Corp.; Patco Mfg. Co.; Republic Products Co.; Waterfilm Boilers, Inc.; Spi-Rol-Fin Corp.; Edwards Engineering Corp.; and Percollash Mfg. Co.

The purpose of the new organization is to establish non-restrictive test codes and ratings for heating and air conditioning equipment where inadequate codes or no codes exist today. It is the intent of the association to publish monthly "Certified" ratings for use by the industry and appropriate governmental agencies.

Immediately after the formal meeting, the Technical Committee met to complete the draft of the initial test code covering

### Dresser Completes \$Million Plant for Compression Fittings

BRADFORD, Pa. — Dresser Mfg. Div. here, one of the Dresser Industries, Inc., announces the completion of a new million dollar compression fitting plant in Wallsboro, Pa.

The new plant, providing 100,000 sq. ft. of manufacturing space, is devoted exclusively to the manufacture of compression fittings for use by equipment manufacturers. The plant, to employ 250 people when full production is attained, is equipped with specially designed, high speed, largely automatic equipment.

A few of the many applications for which Dresser compression fittings are made are: refrigeration and air conditioning systems, pumps and equipment, heavy machinery, laundry and dry cleaning machines, factory piping, diesel locomotives, and boilers and furnaces, it was noted.

Another phase of Dresser Mfg. Div.'s expansion program is taking place at the Bradford plant which has been enlarged with an addition of 33,000 sq. ft. of space. This coupled with a complete relocation and modernization of existing production lines will increase production of couplings, repair clamps and sleeves, saddles, and other products by 15%.

#### Correction

In a story in the June 17 issue of the NEWS on Hunter Mfg. Co.'s new model C-10-A "Cargo Cooler," an incorrect weight of 315 lbs. was given for the unit. The correct weight is 215 lbs.

ratings of residential heating boilers. It is not the intent to duplicate or over-lap existing rating procedures but rather to supplement them with ratings carrying a certification by impartial consulting engineers, it was pointed out.

Any manufacturer's equipment of a normal listing fee monthly supplements upon payment of a normal listing fee whether or not the manufacturer is a member of the association.

Anyone desirous of obtaining further information on the association may do so by writing M. C. Turpin, executive secretary, 54 Clarendon Dr., Valley Stream, N. Y.

## Dings Purchases 2 Carnes Firms

VERONA, Wis.—The Carnes Verona, employ about 300 people. The purchase of the Carnes companies will give Dings greater stability through further product diversification, according to the announcements which also said:

Dings is a manufacturer of magnetic separators, lifting magnets, magnetic brakes, and electronic magnetic detectors. It also owns the Chisholm, Boyd & White Co. of Chicago, manufacturer of dry press brick machinery.

The successor company will be known as Carnes Corp., and will operate as a wholly-owned subsidiary, and will give a combined sales volume of the Dings companies of about nine million dollars this year, it was stated.

The Carnes companies, which have all of their operations at

"There will be no change in existing company policies or personnel of the Carnes companies except that W. R. Carnes, principal stockholder, will become consultant and member of the board of directors of the successor company, Carnes Corp."

"Carnes' previous duties as president and general manager will be performed by Robert Krogstad who will become executive vice president and general manager of the Carnes Corp."

Krogstad is a graduate of Michigan State university in

mechanical engineering and took graduate work at California Institute of Technology, Pasadena. He was previously vice president and chief engineer of Thomas Industries, Inc., Fort Atkinson, Wis., manufacturer of residential lighting equipment, medicine cabinets, paint spraying equipment, and power saws.

### Wall Tube & Metal Products Is Name of 3 Merged Firms

NEWPORT, Tenn. — Operations, facilities, and assets of three firms were recently merged here to form Wall Tube & Metal Products Co., it has been announced.

Wall Wire Products Co., Helical Tube Corp., and Bullard Industries Inc. merged effective July 1 and henceforth will conduct all business under the single corporate title of Wall Tube & Metal Products Co., it was stated.

**BRUNNER**  
SINCE 1906

DIVISION OF  
**DUNHAM-BUSH**

*167 Years of  
Heat  
Transfer  
Experience*

Brunner, now a Division of Dunham-Bush, offers you dependability backed by the amazing record of 167 years of heat transfer experience. That's the actual time members of the Dunham-Bush family have been serving the air conditioning, refrigeration and heating industries.

Well known Brunner Condensing Units offer you the right size equipment for every job . . . an increased coast-to-coast supply depot system with complete stocks and parts.

There's a Brunner and Dunham-Bush sales engineer near your town, ever available to assist you in solving your problems . . . preventing problems. His valuable assistance is backed by 167 years of company assistance.

May we send him your way for a courtesy call?

**BRUNNER DIVISION**  
DUNHAM-BUSH, INC.  
**UTICA, NEW YORK**





## Air Conditioning, Commercial Sales Were 16% Higher In April than March

WASHINGTON, D. C. — Air conditioning and commercial refrigeration distributor sales remained the same in April as in March and dropped 2% from April, 1956. Electrical appliance, TV, radio set, and electronic parts distributors saw sales slip 9% in April as compared with March, although they were 2% higher than the preceding April. Total distributor sales in the first four months of this year were 1% above those a year ago. Inventories remained level in April as against March and increased 6% over April a year ago.

However, sales in the first four months of this year fell off 3% from the like period of 1956. End-of-month inventories rose 2% in April over March and jumped 12% higher than April of last year.

Plumbing and heating equipment supplies distributor sales rose 7% in April over the preceding month but dropped 4% from April, 1956. Sales in the first four months of 1957 skidded 2% from the same period a year ago. Inventories

### Firm Opens Office

FORT LAUDERDALE, Fla. — Rose Air Conditioning Corp., air conditioning specialists offering consulting and designing services, has announced the opening of offices in the Hoag building at 2651 N. Federal.

## Down Payments --

(Concluded from Page 1, Col. 2)

25% on the value above that.

Under the proposed law passed by Congress, minimum down payments could be set as low as 3% on the first \$10,000 appraised value, 15% on the value between \$10,000 and \$16,000, and 30% on the value from \$16,000 to \$20,000. Under new terms, it would reduce the minimum down payment on a \$16,000 home, for example, to \$1,200 from the \$2,200 currently required. However, actual terms on a mortgage transaction are set by the lender and borrower and frequently range well above FHA minimums.

Before FHA Commissioner Mason can lower down payment requirements, the proposed law requires him to find that such action would be in the public interest and is warranted by economic conditions.

Housing starts in May rose to a seasonally adjusted annual rate of 990,000 units for the highest annual rate for any month this year. It was also reported June starts reached a rate of about 1,000,000 units. But home building is now running at the lowest level in almost 10 years.

Authorizations in the bill include new lending authority for the Federal National Mortgage Association to provide a secondary market for home mortgages.

Meanwhile, Joseph B. Mason, editorial director of *American Builder* magazine, declared the housing bill will boost housing starts this year to a minimum of one million. "The favorable effect on next year's building will be much greater," he added. "We expect total starts to rise to about 1.2 million."

Other minimum down payments provided for in the Housing Act of 1957 are: \$300 on a \$10,000 home; \$600 on a \$12,000 house; \$1,050 on \$15,000; and \$2,400 on 20,000. These down payments do not include closing costs.

## June Building Hits \$4.4 Billion Record

WASHINGTON, D. C. — Topping the previous June record set a year ago, spending for new construction put in place rose seasonally last month to a record \$4.4 billion for the month, the Commerce and Labor Depts. reported.

For the first half of this year construction outlays amounted to a record \$21.5 billion, 3% above the previous high reported for the first half of last year, the government said.

On a seasonally-adjusted basis, the departments continued, first-half outlays reached an annual rate of nearly \$46.8 billion. This compared with actual expenditures of \$46.1 billion for the full year 1956.

Almost all construction types shared in the May-to-June rise with June outlays showing an 8% climb over the previous month. Private construction last month totaled \$3 billion, 1% under the year-earlier total. This was due mostly to a decline in new housing, the report indicated. Though up 11% over May, spending for new home building fell 11% shy of the year-ago level.

## ABROAD: Cooling's Getting Up In the World

Looking like a giant marshmallow on a stick, this four-story air conditioned building is impaled on a television tower which rises almost 700 ft. into the sky over Stuttgart, West Germany.

The four-story "basket" houses two restaurants, kitchens, television transmission facilities, and an observation platform. Some 5,000 tourists visit the lofty "crow's nest" daily from where they can see the Alps 250 miles away.

Carrier Corp. says 28 tons of air conditioning of unique design was supplied by its licensee in Stuttgart (Lufttechnische Gesellschaft m.b.H.) to keep the airborne structure from reaching broiling stage from the sun's rays.

The system keeps the glass sphere cool on the sunny side while providing heat for the shaded half.

Sddeutscher Rundfunk, a West German broadcasting company, uses the lofty transmitting antenna for both radio and television signals which go out for hundreds of miles over the mountainous West German terrain.



Things were looking up for air conditioning and refrigeration elsewhere abroad, too.

In Ottawa, Canada's capital, the Russians have installed Admiral room air conditioners in their new legation building. The Soviet minister, says Admiral, sought no special deal. He bought the units from local dealer, Rideau TV and Appliances.

"There's only one freezer in all of Nigeria, and that's in a hotel," said Mobolaji Bank Anthony, operator of a number of thriving enterprises in that west African country, on a visit to the United States. He plans to put another iron in the fire: importation and sale of air conditioners, refrigerators, and freezers.

The Iraq government recently ordered five big 200-hp. Trane "CenTraVac" centrifugal water chilling machines, reports Don Reed, Trane Co. export manager. Three are for the new Houses of Parliament building in Baghdad, one for a Baghdad power sta-

tion, and one for a power station in Dehis.

"Right now in Chile, interest is high in the use of refrigeration equipment for industrial purposes," reports George Assler, Trane distributor in Santiago. "The preservation of such perishable food commodities as meat, frozen fish, fruits, and eggs is attracting much attention."

"In addition, we are experiencing a marked increase in the number of inquiries for air conditioning for comfort purposes."

"How fast we move forward in this direction is dependent on many things including the price of copper, sales of nitrate, and whether recent oil discoveries in the southern part of our country develop into something big."

First installation of a hermetic centrifugal refrigeration machine in Puerto Rico will be made in the Sunbeam Electric Corp. office building to be erected in Santurce.

## New... Better



hermetic eye\*

double port sight glass

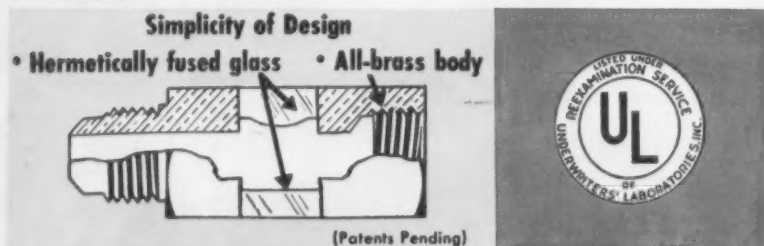


with revolutionary hermetically fused glass-to-brass construction... no gaskets, joints or fittings

Another great stride in leakproof refrigeration installations comes with the Superior 888 hermetic eye double port sight glass. Here is the perfect hermetic bonding of glass-to-brass—no gaskets, joints, solder seals or fittings.

Tested to more than 3000 p.s.i., it assures leakproof operation. Double port design for clear-through vision—the word FULL clearly visible only when system is charged with refrigerant. The special heat-resistant glass possesses high tensile strength. Available in 1/4" and 3/8" male-to-male and male-to-female SAE flare.

\*Trademark



LOOK FOR THE 888 HERMETIC EYE AT LEADING WHOLESALE IN THE INDUSTRY

**Superior valve and fittings co.**  
Pittsburgh 26, Pennsylvania

NEW  
LOWER  
PRICE!



THE  
THRIF'AIRE  
BOTTLE COOLER

First in economy... finest in design and now the new low low price of the La Crosse Thrif'aire makes it your greatest value in bottle coolers! The exclusive "plug-in-panel" refrigeration unit is quickly and easily removed... adaptable to many uses. Beautiful grey baked enamel... 42" and 62" lengths... fingertip, stainless steel, slide-away doors.

Your welfare is ours... We don't sell direct

WRITE TODAY



EXPORT OFFICE: 125 BROAD ST., NEW YORK, CABLE: EXIMPORT



## Skuttle Finds TV Weatherman Program Doubled Humidifier Sales In Grand Rapids



WEATHERMAN Frank Slaymaker with a display of humidifiers used for a 15-week advertising program over WOOD-TV, Grand Rapids, Mich. Inset shows Slaymaker at his weather map. Officials of Skuttle Mfg. Co., Milford, Mich., and The Jaqua Co., advertising agency for Skuttle, reported that the program more than doubled humidifier sales in the area.

MILFORD, Mich.—A tabulation by Skuttle Mfg. Co. here, humidifier manufacturer which tried television on an experimental basis last winter to add impetus to dealer sales, shows it paid off handsomely.

The tabulations of humidification equipment sales in the southwestern Michigan area, served by Grand Rapids WOOD-TV (channel 8), showed dealers sold more than double the amount of such equipment in the six-month period, July 1-Dec. 31, 1956, than they had in the entire preceding 12 months.

Grand Rapids was chosen as a test area because the advertising agency serving Skuttle, The Jaqua Co., is located there and the programs could be monitored and the public's awareness of humidification checked.

The show chosen was a five-minute weather report-forecast (part of a 15-minute weather-news-sports show) featuring Frank Slaymaker, a meteorologist with several years' TV experience.

No other advertising was done in the test area during the time, excepting for yellow-page listings, so presumably the entire increase in sales resulted from the television commercial announcements.

The show was scheduled for 13 weeks, but was extended two weeks after that time had run out so as to keep the message going until near the end of the heating season.

Skuttle underwrote the entire cost of the test program. Authorized Skuttle dealers were mentioned, three at a time in rotation, at the close of each Slaymaker show. Bigger jobbers and dealers received more than one mention on the program.

## Toledo Group Names Executive Secretary

TOLEDO—Appointment of E. W. Defries as full-time executive secretary of the Toledo Warm Air Heating Contractors Association was announced. He was formerly Lucas County heating inspector.

Prior to joining the county building inspection department, Defries was with Wayne Equipment Co. as divisional manager and was eastern divisional manager six years for the Siegler Furnace & Range Co.

While with the inspection department three years, Defries and his partner, Herald Hill, issued more than 675 citations for permit failures and never lost a court case, it was reported.

## No. Calif. Group Makes 'House Heating Secrets' Booklet Available To Prospects

SAN FRANCISCO—A completely new booklet on "House Heating Secrets" is being sent to contractor-dealers, home builders, appraisers for loan institutions, and others who come in contact with present or prospective homeowners, according to Dar Knowles, executive manager for the Warm Air Heating Institute of Northern California.

Illustrations are in two colors and black, depicting a young married couple in their search for a home, their contacts with friends, including one in the heating business, a contact with a loan officer, a real estate man, and a service manager for a heating dealer or contractor.

Featured on the back is a check list for central warm air

heating systems: (1) the thermostat, (2) the registers, (3) the ductwork, (4) the furnace, (5) the installer.

A paragraph headed "Provision for air conditioning" reads as follows:

"If the house is not completely air conditioned and if the summer climate is hot, it is well to ascertain not only that there's space for a refrigeration unit, but also that the blower and duct system have sufficient capacity for its addition. Ask the agent or installer."

Knowles said the details of the new booklet were worked out by the men in the industry who are members of the institute's board of directors, including contractor-dealers, wholesalers, and manufacturers, at regular and

special meetings of the board.

The booklet gives proper emphasis to the statement "Better heating scarcely affects monthly payments."

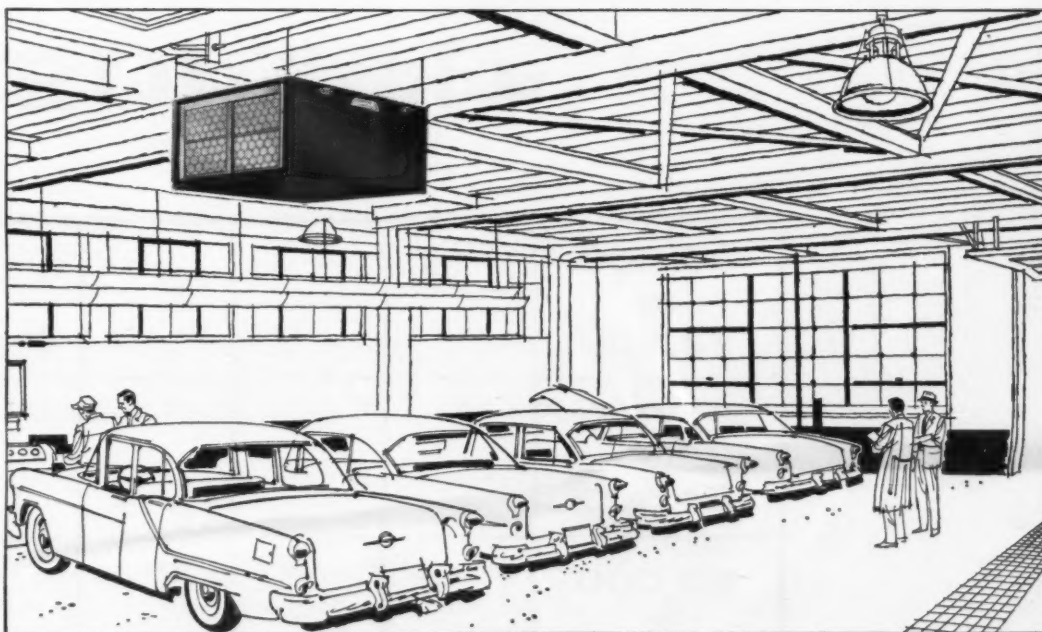
"Even the best furnace must be properly installed. And as little as a few cents a day during the life of your loan can make the difference between satisfaction and disappointment. So why take chances?" the booklet states.

Prominent at the front of the booklet is the emblem of WAHINC, displayed by members at their places of business, and bearing the legend "for better heating."

## Edward W. Suor, Contractor, Dies of Heart Attack at 47

BUFFALO—Edward W. Suor, 47, a heating and air conditioning contractor in this area, died of a heart attack recently. He was proprietor of Climate Equipment & Supply Co., Inc.

## New Mueller Climatrol 917 functions as both remote heating and cooling unit



### Outstanding for stores, garages, restaurants, theaters, plant areas

Top air circulation capacity, large-area built-in filter—and priced right! It's Mueller Climatrol's new 917—in a class by itself for suspended installations. Designed for operation with remote air- or water-cooled condensing units, its big centrifugal blower distributes air effectively over large areas.

This unit can also be adapted to a year-round forced air system by adding an optional steam, hot water or electric heating coil . . . or will serve as a unit air conditioner with addition of an optional return air grille and discharge plenum. Choose from nominal 24, 36, 60 and 90-thousand Btu output cooling sizes.

### New dealer "Signarama" scores immediate hit



And no wonder! With a fascinating flasher sequence that identifies the dealer in big letters, this spectacular outdoor display attracts attention from blocks away. Yet it's only about one-third the cost of a neon sign.



### Mueller cooling production expanded to satisfy demand

To advance in step with today's trends in the heating-cooling industry, Mueller Climatrol recently increased cooling unit assembly capacity by 50%. The above is only one of three extensive production lines coordinated in one area to provide the flexibility demanded by Mueller Climatrol's growing volume and variety of air conditioning units. And with it comes even better quality control, even greater assurance of on-time deliveries for Mueller dealers.

## Mueller Climatrol®

2056 W. Oklahoma Ave., Milwaukee 15, Wisconsin

...CLIMATE CONTROL FOR HEALTHFUL LIVING





# System for Existing Office Building In West Texas Uses Outside Air, Positive Pressure To Prevent Infiltration of Sand and Cut Operating Costs

By C. Dale Mericle

BIG SPRING, Texas—Out in West Texas where the wind blows most of the time, sand and dust sweep from the plains into towns and the buildings that comprise them. So it wasn't too surprising that when Cosden Petroleum Corp. purchased an existing six-story building here a year ago to accommodate its rapidly expanding office force, it not only wanted air conditioning but hoped to avoid that dust infiltration problem.

### Contractor Solves Several Problems

The year-round air conditioning system devised for the building by Lydick-Barmann Co., veteran Fort Worth contractor, accomplished just that as well as solving some other problems. "Cosden had had experience with two separate office air conditioning systems in the past," points out Paul V. Barmann, president of the Fort Worth firm. "Each system had definite short-comings, and as a consequence the management was emphatic about wanting a draft-free installation with plenty of fresh air and accurate temperature control.

### Keep Same Trunk Duct While Moving Partitions

"In addition," Barmann says, "there was a requirement that Cosden was to be able to move partitions at any time without changing the trunk duct system." Another important consideration is that in West Texas temperature changes can be sharp and sudden, especially in spring and fall, Barmann adds. "A typical day last fall," he illustrates, "had a temperature of 37° at 8 a.m., 55° by 11 a.m., 68° by 1 p.m., and at 2:30 p.m. it hit 80°, where it stayed until 5 p.m. A temperature drop of 30° in 30 minutes is not uncommon in winter."

### Speed Required

Besides all the above and other application problems, the contractor had to do the job fast. When Cosden purchased the building in the spring of 1956, the oil company scheduled occupancy of at least one floor in 60 days, so long before all the design details of the air conditioning system had been completed, major equipment had already been ordered by Lydick-Barmann. Built in 1929, the building in question was of concrete column and slab construction with brick facing. Cast-iron steam radiation was used for heating, and the windows were unusually large. At the time Cosden purchased the building, much of the ground floor was devoted to stores of various types occupied on a lease basis. Initially, then, the Cosden offices were located on the second through the sixth floors. The ground floor leases, however, are now about to ex-

pire. When Cosden takes over this floor, too, additional air conditioning will be provided by tying into the system installed last year. Latter was sized with this in mind, Barmann discloses. Major components of the system include a 100-ton Carrier water chiller, a Marley induced draft tower, five multi-zone air-handling units (one for each floor), five separate fresh air blowers (one per floor), a 7½-hp. Frigidaire self-contained air conditioner serving as a









"booster" for an I.B.M. machine room, water and vacuum pumps, and an electronic control system including a "Supervisory DataCenter" engineered by Minneapolis-Honeywell. Hot water for heating and steam for tempering outside air is obtained from two boilers which served the original steam heating system. New gas burners and controls were installed, however, along with a converter to provide hot water. The original steam vacuum pump was converted into a condensate pump. In designing the air conditioning system, Barmann deter-

mined that four basic zones were necessary to serve the building, whose floor plan is approximately 90 by 50 ft. These are a north zone, a west zone to take care of the afternoon sun, a south zone, and an interior zone. An independent zone was provided for the conference room located on the sixth floor among the executive offices. Heavy Solar Load Incidentally, the ceiling of the sixth floor also is the roof slab and is therefore subject to a heavy solar load. Afternoon temperatures of 108° to 112°

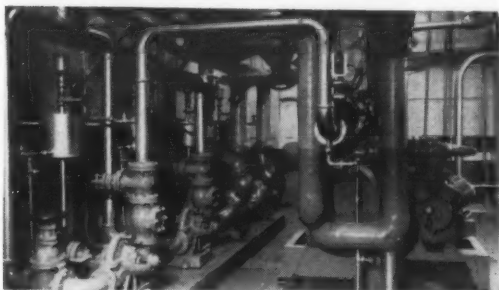
are not uncommon in summer, Barmann points out. To reduce this roof load and keep air quantities "within reason," it was decided to remove the old roof, which had only a couple years' more life anyway, insulate with 2 in. of glass wool, and re-roof, Barmann said. As another move to reduce the sun load on the building, "cool screens were used on the south and west sides of the building," Barmann adds. "The screens did everything the manufacturer claimed, and the Cosden management, feeling the screens added to the appearance of the building, had them installed also on the east and north windows." The 100-ton water chiller is located in a basement machinery room along with the pumps and electronic control center. Stand-by pumps are provided so that the system won't have to shut down in the event of pump failure, i.e., there's a main and

(Continued on next page)

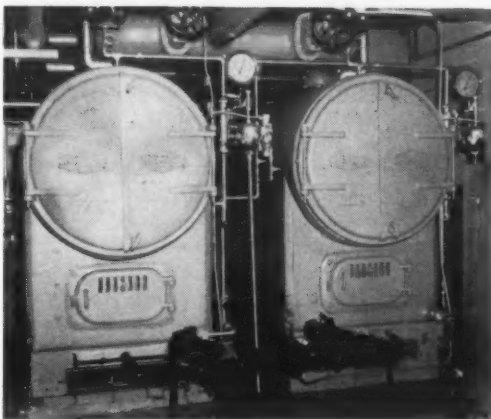
## Only with Westinghouse Air Conditioning can with "JUST RIGHT"

86,000 to 74,500							
67,000 to 54,500							
62,000 to 50,000							
50,000 to 36,500							
39,000 to 32,000							
32,000 to 23,500							
23,000 to *19,000							
 BTU's per HOUR	 BUDGET 301	 SUPER 352	 BUDGET 401	 SUPER 452	 BUDGET 601	 SUPER 652	 SUPER 802
7 NOT 3 PRICE STEPS TO BEAT COMPETITION!							
*Lower Figures are ASRE Ratings							





NEAT machinery room houses 100-ton water chiller and duplicate pumps to serve air conditioning system in six-story office building of Cosden Petroleum Corp., Big Spring, Texas.



NEW gas burners and controls were installed for existing boilers and a converter added to supply hot water for air conditioning system.

## West Texas Office Bldg. System--

(Continued from preceding page) stand-by pump for supplying the hot or chilled water to the five fan-coil air-handling units, and a main and stand-by condenser water pump serving the cooling tower.

### 'Fan Room' on Each of 5 Floors

One room on each of the five floors serves as a "fan room," in which is located the air-handling unit for that floor and the separate ventilating fan.

Noting that Cosden insisted that the system "must be quiet," Barmann explained that the "air-handling units were selected with low fan outlet velocities. Trunk duct velocities were not to exceed a maximum of 1,200 f.p.m.

"Dust runs were comparatively short and were exposed, except in corridors where they were plastered in. For the sake of appearance, transitions were eliminated in the exposed ductwork. Additional cost of the

oversized ducts that resulted was offset by the savings of not having to fabricate transitions," Barmann said.

### Plenum Type Duct

"The engineers also felt that the plenum type duct would give an even air flow without having to balance each outlet," he also commented. "This proved to be true to an extent,

and balancing was reduced to a minimum."

The door to each fan room is fitted with a large (approximately 2 ft. by 5 ft.) grille to serve as the return air intake. Attached on the inside of the door is a specially designed sound trap constructed of sheet metal and lined with acoustical material. This eliminates all noise from the air-handling



COOLING is often required in zone housing business machines while rest of building calls for heating, so this 7½-hp. self-contained conditioner can be operated independently of system serving the Cosden office building.

units, according to Barmann. Conventional high side wall registers are employed in all zones except the west zone where large air volume is required in both summer and winter. Here ceiling type Anemostat diffusers are employed, and Barmann says there have been no complaints about drafts despite the high turbulence in this zone.

### Constant Slight Positive Pressure

To solve the previously mentioned problem of dust and sand infiltrating into the building, which occurred despite the best possible weather stripping around the windows, Barmann decided to keep the building under a slight positive pressure at all times.

With the building under positive pressure, there should be an exfiltration of air around the windows, etc., so that even despite West Texas winds dust and sand wouldn't blow in.

This has worked out quite satisfactorily, Barmann declares.

### Blower Exfiltrates Excess Air

It's accomplished primarily by that extra blower in each fan room, which supplies a minimum of 20% outside air to the building at all times, the excess air exfiltrating around the windows and the elevator shaft.

But besides providing this necessary exfiltration, the outside air hookup has been arranged with a fairly elaborate control system (permitting 20% or 100% outside air) to provide added benefits, the contractor indicates.

### Fresh Air Has Refreshing Effect

"It has been found that the introduction of large quantities of fresh air has a refreshing as well as cooling effect," Barmann says. "On many fall and spring days it has not been necessary to operate the water chiller. Introduction of large quantities of fresh air had the added advantage of removing odors before they concentrate to the point of being objectionable," he adds.

Fresh air also successfully combats the smoke problem, he points out.

A typical fan room setup for this installation employs a 38 by 40-in. outside air intake. From this a 28 by 40-in. duct runs to the intake side of the air-handling unit and a 10 by 40-in. duct (with transitional sec-

(Continued on next page)

you Price, Sell, Profit

# COOLING CAPACITY

You get 7 units with a cooling range of 19,000 to 86,000 BTU's per hour... (most others give you only 3). With Westinghouse you have "Just Right" cooling at just-the-right price for all prospects.

Only Westinghouse makes it possible for you to beat over-rated or under-capacity competition. While other brands confine your profits with 3 old-fashioned 2, 3, and 5 HP models—Westinghouse gives you 7! A complete cooling range from 19,000 to 86,000 BTU's per hour. This means, wherever you are, whoever your customer... you can now price, sell, and install the one unit that is "just right" for the job, and you can do it profitably!

IT'S A FACT! Cooling requirements differ with each home. For example: size, style, exposure, climate, size of family, and more, all make a difference. Yet, "by guess and by gosh" competitors still try to satisfy the cooling needs of all homes with only 3 units.

YOUR ANSWER TO COMPETITION! Dealers who try to sell all prospects, regardless of need, with but 3 inflexible units are working with the odds against them. To be safe, they are forced to bid a 5 HP price on many 3½ HP jobs... or hope that an underpowered unit won't bring complaints. With Westinghouse there are no "too much or too little" problems... you can close each sale with cooling capacity that's "just right" for the job. Best of all, there is both a Budget and a Super line to meet your competition profitably!

MASTER BOTH HEAT AND HUMIDITY! Westinghouse makes it possible for you to match the BTU requirements of any home and master humidity too. You get the right air cooled condensing unit and its companion cooling coil to best meet the comfort needs of your customers—where you sell. You get complete mastery of heat and humidity with only 7 basic units.

### PLUS: "JUST RIGHT" COOLING

- TWO-TONE COLOR STYLING
- WHISPER-QUIET OPERATION
- 5-YEAR WARRANTY
- MATCHING GAS AND OIL-FIRED FURNACE LINE

Fast delivery, sales training, finance plans, advertising, sales promotion—and more.

These are just some of the reasons why a Westinghouse Franchise is valued as the "Franchise With The Future" by leading dealers and contractors all over the country! For complete information write:

Westinghouse Air Conditioning Division  
Department IG15, P.O. Box 510  
Staunton, Virginia

YOU CAN BE SURE...IF IT'S **Westinghouse**  
Air Conditioning Division Staunton, Virginia

Tune in TV's top dramatic show... Westinghouse Studio One.

J80542B

For more information about products advertised on this page use Information Center, page 24.



## Cooling Existing Office Bldg.--

(Continued from preceding page) tions) to the separate ventilating fan. A 10 by 13-in. duct extends from the outlet of the ventilating fan to the 28 by 40-in. intake duct connected to the air unit.

On top of this 28 by 40-in. intake duct is a return air intake fitted with a damper.

Directly above the outside intake in the building wall is a 28 by 40-in. exhaust fitted with a cowl so that the air exhausts

at a right angle and thus avoids "short cycling" into the fresh air intake immediately below.

Dampers and filters are provided in the outside air intakes, and a steam tempering coil is located just ahead of the fan.

### Description of Events' Sequence

How the system operates is best shown in a description of sequence of events on a typical spring or fall day.

After the hot-chilled water pump is started manually, the electronic control system takes over. When the outside air temperature is below 40°, hot water is supplied to the coil in the air unit and steam to the tempering coil ahead of the ventilating fan. Dampers are set so that 20% outside air is being supplied, this air being pre-heated by the steam coil to a temperature of 40° F.

### Pre-Heating Necessary

Such pre-heating is necessary to prevent the outside air freez-



CONTROL of temperatures in all zones (except president's office) of Cosden building is provided at this "Supervisory DataCenter" engineered by Minneapolis-Honeywell. Here, also, temperatures of all zones as well as water temperatures can be instantly checked by the operating engineer.

ing the hot water coil in the air unit, which could happen under certain conditions.

When outside air is between

40° and 45° no heat is supplied to either the air unit coil or the pre-heating coil, the system continuing to operate on 20% outside air.

As the outdoor temperature rises to 46°, the controls shift the dampers to supply 100% outside air. The ventilating fan continues to run, of course, as it does whenever the system is in operation. With the introduction of 100% outside air at 46° and above, hot water is supplied to the air unit coil.

With 46° outside air, water temperature to the air unit coil is maintained at 95°; at 50° outside air, the coil temperature is 90°; at 55° outside, coil is 85°; with 60° air, water to the coil is 80°.

### All Heat Shut Off At 65° Outside

When the outside air temperature reaches 65°, all heat is shut off while the system continues on 100% outside air. It so continues until air temperature reaches 70°.

"With 69° air, it is possible to maintain temperatures between 72° and 75° throughout the building using 100% outside air only as the cooling medium," Barmann says.

### Chilled Water Supplied at 70°

As soon as the outside air reaches 70°, however, the condensing unit on the water chiller starts (unless the operator has blocked it out for some purpose or other), and chilled water is supplied to the air unit coils for cooling.

The units continue to operate on 100% outside air until the temperature reaches 80° outside, at which point the main outside air dampers close, and the system reverts to the minimum 20% fresh air.

A partial exception to the above sequence of operation occurs in the section housing I.B.M. equipment, which puts out considerable heat. The entire west zone on one floor was deliberately selected for this purpose because this zone could require cooling at the same time other zones in the building called for heating.

As was mentioned previously, a 7½-hp. self-contained Frigidaire air conditioner is installed in the zone occupied by the business machines with a separate pump supplying con-

## MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.  
PRESSURE GAUGES and Dial Thermometers for all services.  
MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.  
MARSH INSTRUMENT COMPANY  
Sales Affiliate of Jas. P. Marsh Corporation  
Dept. D, Skokie, Ill.



Horne's main store in Pittsburgh has 28 filter stations with banks ranging from 10 to 48 filters each. Pittsburgh Glasfloss Filters are used exclusively. The system was installed in 1937.

## "We effected a direct unit saving of 13% by switching to Pittsburgh Glasfloss Air Filters"

—says Howard F. Burrell, Chief Engineer  
JOSEPH HORNE CO., Pittsburgh, Pa.

"The filters we previously used in our store-wide air conditioning system would shred and stick to fingers and clothing when handled," reports Mr. Burrell. "They were not uniform in quality and their performance was erratic."

"We switched to Pittsburgh Glasfloss Filters in February, 1956. We found Glasfloss Filters much easier to handle. They are lighter in weight and safer, too; this Fiber Glass does not splinter or shred. What's more, Glasfloss lasts longer, making it possible for us to effect a 13% saving over filters previously used."

"From an engineering point of view, we consider Glasfloss the most practical, eco-

nomical and dependable filter possible to obtain for our system!"

### Glasfloss Filters Will Give You Best Results, Too!

Pittsburgh Glasfloss Filters are made of fine, soft Fiber Glass, which provides greater dust-collecting areas without interfering with the air flow. They are moisture proof and fire resistant. Glasfloss Filters will give you top service from your air conditioning system, help you cut costs.

Contact your nearest Glasfloss Distributor or Pittsburgh Plate Glass Warehouse. Pittsburgh Plate Glass Company, Fiber Glass Division, One Gateway Center, Pittsburgh 22, Pennsylvania.



Howard F. Burrell, Chief Engineer, reports that Pittsburgh Glasfloss Filters are easy to handle, soft and light weight; and that this Fiber Glass filter does not splinter or shred.

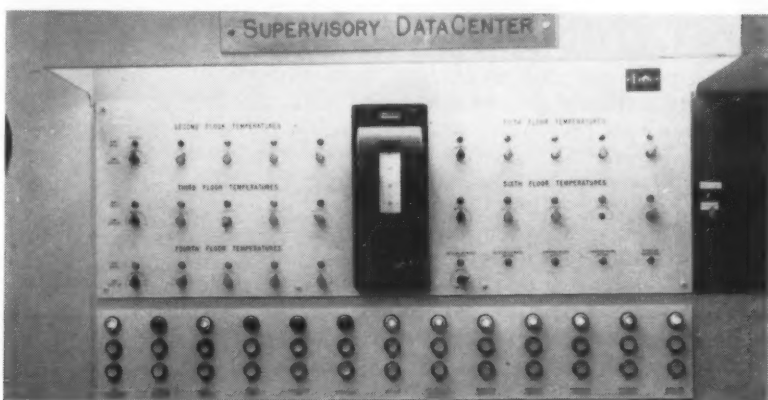
PITTSBURGH GLASFLOSS FILTERS ARE A PRODUCT OF THE FIBER GLASS DIVISION OF PITTSBURGH PLATE GLASS COMPANY  
Sales Offices are located in the following cities: Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia and St. Louis



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY





SEPARATE electronic thermostat in office of Raymond Tollett, president of Cosden Petroleum Corp., gives him independent control for this zone.

## West Texas Office Bldg. System--

(Concluded from preceding page) denser water. This air conditioner is started and stopped manually (subject, of course, to its own thermostatic control) by the occupants of the room.

"Usually," says Barmann, "it's turned on when the outside temperature gets up to 60°."

When this unit is turned on, however, a damper in the supply duct closes automatically, thus preventing heat being added to this zone from the over-all system. When the main system is on cooling, the 7½-hp. unit may be operated or not as the occupants of this room choose.

### Electronic Control In Rest of System

Rest of the building's system is controlled electronically because, Barmann explains, "Cosden wanted the plant as nearly automatic as possible, the temperature response to be rapid, and the variation held within close limits."

Heart of the Minneapolis-Honeywell electronic control system is the "Supervisory DataCenter" panel in the basement. Here all zone thermostats except one can be reset. Exception is the Cosden president's office, which has its own electronic thermostat on his desk.

Besides the master thermostat controls, the panel also has start-stop switches for all the operating components of the system plus a remote reading temperature indicator which permits checking temperatures in all the zones as well as water temperatures (supply, return, and condenser) and outside air.

Pilot lights are provided on the panel also to show which pieces of equipment are operating.

### Information Cut Temperature Grips

"When the plant was put into operation, various members of each department were shown the control center and how the operator could instantly determine the temperature in each zone," Barmann recalls. "It was astonishing to see how this information decreased the temperature complaints. The electronic zone controls hold the temperature to within .2 of 1°," he adds.

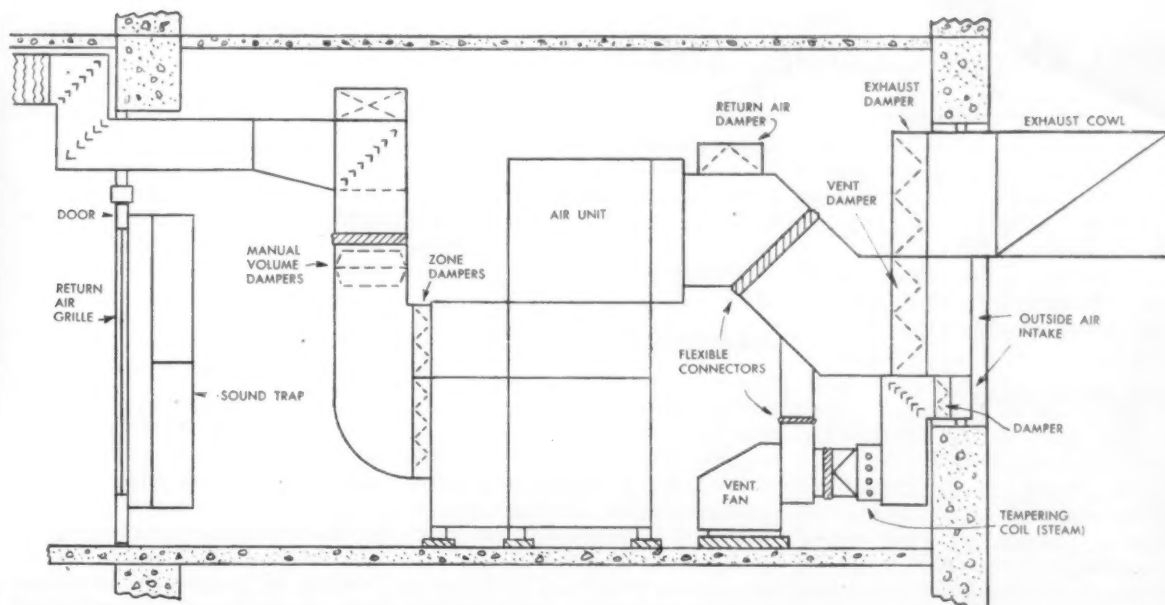
### Prevents Freezing Of Cooling Tower

Another important feature of the control hookup is designed to prevent freezing of the cooling tower, which could happen with the sudden drops in temperature which occur in this area, especially in spring and fall.

When the outside temperature

drops to 33°, the tower is drained automatically. It is automatically refilled when outdoor temperature rises to 38°.

Although the system as initially installed did not call for air conditioning the first floor



TYPICAL fan room layout (fifth floor) of Cosden system shows outside air intakes and exhausts, ventilating fan which supplements air-handling unit, dampers, and sound trap on door which has grille for return air. System operates on 20% or 100% outside air, depending on outdoor temperatures, thus building is kept under positive pressure to prevent infiltration of sand and dust around windows, doors.

under way soon), Lydick provision for heating the two control of radiation in each Barmann's work did involve entrance lobbies. A modulating lobby prevents overheating.

*Sure way to solve regulating valve problems . . . . .*

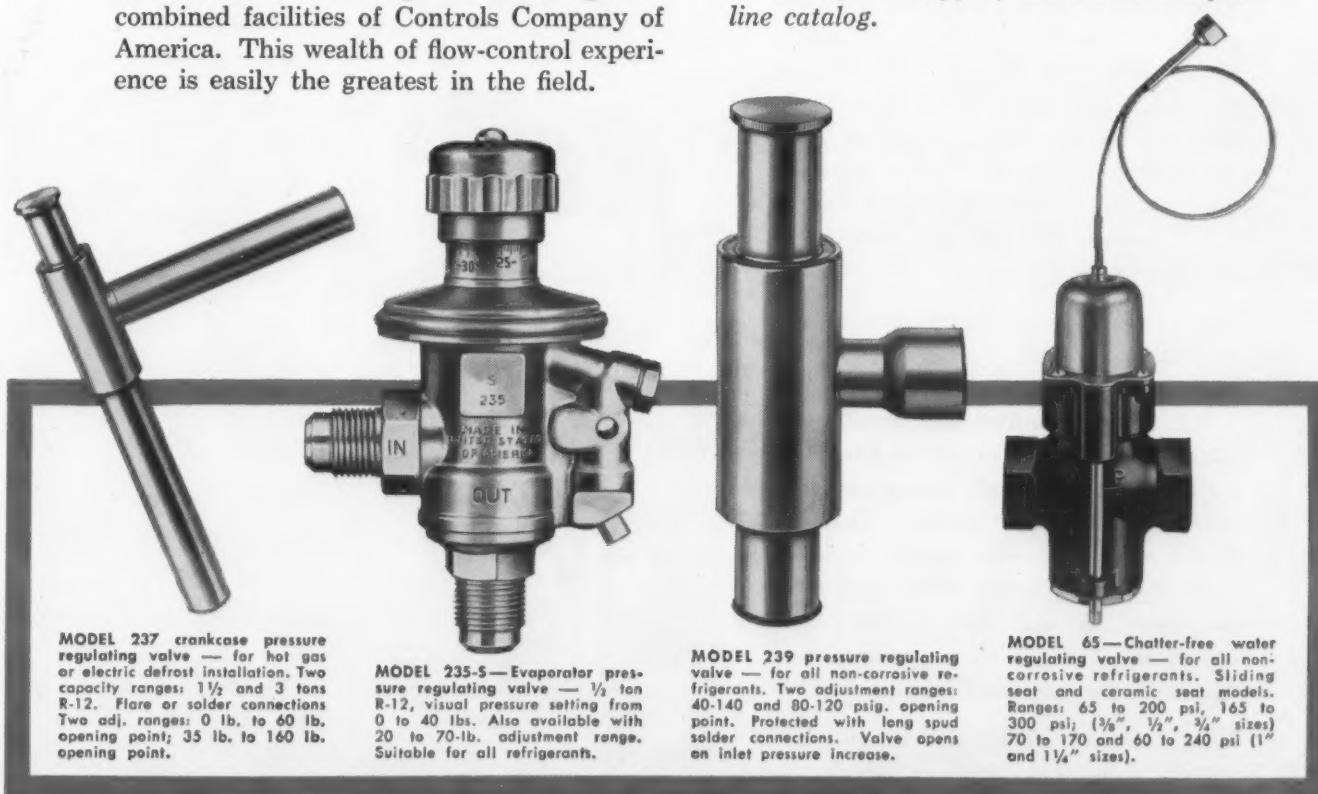


## You can rely on **A-P**

Two things make it easy for us to back up this statement. First, we offer you a range of regulating valves that covers just about every known flow control problem. And secondly, we've more than doubled creative research and design staffs through the combined facilities of Controls Company of America. This wealth of flow-control experience is easily the greatest in the field.

So, if you need standards like the valves shown — or quantity "specials" created for specific purposes, we urge you to contact A-P first. We'll deliver in any quantity on schedules geared to fit your plans.

Write for a copy of A-P's new complete-line catalog.



MODEL 237 crankcase pressure regulating valve — for hot gas or electric defrost installation. Two capacity ranges: 1½ and 3 tons R-12. Flare or solder connections. Two adj. ranges: 0 lb. to 60 lb. opening point; 35 lb. to 160 lb. opening point.

MODEL 235-5—Evaporator pressure regulating valve — ½ ton R-12, visual pressure setting from 0 to 40 lbs. Also available with 20 to 70-lb. adjustment range. Suitable for all refrigerants.

MODEL 239 pressure regulating valve — for all non-corrosive refrigerants. Two adjustment ranges: 40-140 and 80-120 psig. opening point. Protected with long spud solder connections. Valve opens on inlet pressure increase.

MODEL 65—Chatter-free water regulating valve — for all non-corrosive refrigerants. Sliding seat and ceramic seat models. Ranges: 65 to 200 psi, 165 to 300 psi; (¾", ½", ¾" sizes) 70 to 170 and 60 to 240 psi (1" and 1½" sizes).

## CONTROLS COMPANY OF AMERICA

*Manufacturers of A-P CONTROLS*

2460 N. 32nd Street, Milwaukee 10, Wis.

*Controls That Make Modern Living Possible*



### JUST A FEW OF THE MANY TYPICAL USERS

Phenix Soda Fountain Company, Inc.  
Foremost Industries Soda Fountain Co.  
Copeland Refrigeration Corporation  
The Federal Refrigerator Manufacturing Co.,  
Schaefer, Inc.  
Bahn Aluminum and Brass Corporation  
Keeprite Products Ltd.  
Holsted & Mitchell  
Kramer-Tranton Company  
McQuay, Inc.  
Larkin Coils, Inc.



## NFPA Changes Cooling Standard--

(Concluded from Page 1)

about because of the increasing number of installations where diffusers were put into fire-resistant ceiling and fed by ducts in the ceiling.

"Obviously," he added, "such an installation could impair the fire resistant rating of the ceiling."

### Details Revision

The note to paragraph 114 (a) reads as follows:

"A lining, to be considered fire resistive for this application should possess a flame spread classification of not over 25 without evidence of continued progressive combustion, and with a smoke developed rating not higher than 50 or designated 'Light' or 'Negligible,' as determined by the Method for Fire Hazard Classification of Building Materials, NFPA No. 255,

ASTM E 84-50T, Underwriters' Laboratories, Inc. Standard. Such materials are listed in the Underwriters' Laboratories, Inc. Fire Protection Equipment List under the heading 'Building Materials-Hazard Classification (Fire).'"

### Additions Given

Additions to paragraph 126 and given sub-classifications (b) and (c) were:

"(b) Where ducts installed above a fire resisting ceiling are provided with openings in the ceiling, it is important that such openings be limited in size and adequately protected to preserve the required fire resistance. Such openings shall have approved means for protection.

"(c) If access doors are necessary in a required fire resisting ceiling, they shall be limited to a maximum size of 400 sq. in.

and be of construction equivalent in fire resistance to the ceiling."

The report of the committee on building construction pertaining to cooling towers was an indication of the work that the committee has done on the preparation of a standard on the protection of water cooling towers, Stevens said.

### Subcommittee To Prepare Standard

"It is my understanding that a subcommittee will be set up to carry on this work and prepare a standard that will be presented for tentative adoption at the annual meeting next year," he added.

"This subcommittee will contain a more representative group of people who are concerned with cooling towers, particularly representation from the Cooling Tower Institute.

"There have been several quite disastrous fires involving

cooling towers, and the increasing use of cooling towers in industry has prompted action on the preparation of a standard."

Stevens had previously warned in an article published in the *NFPA Quarterly* last fall that cooling towers with wooden parts will burn. He wrote:

"It is a fact that when the tower is operating, most of the wood is wet, but this depends on the type of tower and does not in many cases include the sides and top which, after exposure to sun, become very dry."

### Wood Cooling Tower Requirements

The tentative standard, as outlined in the progress report, would require cooling towers with combustible exteriors to be located not less than 50 ft. from any building, chimney, stack, incinerator, or other source of ignition.

Towers with non-combustible exteriors or those located on

roofs of buildings could be located not less than 20 ft. away from sources of ignition if all exterior surfaces are non-combustible, a corrosion resistant screen is maintained over louver and fan openings, and an approved automatic sprinkler system is installed.

Cooling towers completely made of non-combustible materials throughout may be located less than 20 ft. from sources of ignition.

### Other Tower Provisions

Other provisions of the proposed standard require:

Towers located on the ground must be enclosed by a fence not less than 20 ft. from the tower.

Except for those made completely of non-combustible materials, cooling towers on roofs must be accompanied by at least one standpipe with sufficient hose to reach all parts of the tower.

Where deemed necessary, the tower shall be equipped with lightning protection.

Forced and induced draft towers in continuous operation should be checked at least twice a day for excessive heating in motors, speed reducers, or fan bearings.

Fan assemblies should be checked at least twice a year for excessive wear, fatigue, improper lubrication, or other features that could result in failure.

### Cooling Towers Set On Ground Must Be Kept Free

Areas around towers located on the ground should be kept free of grass, weeds, and brush. Smoking shall not be permitted on or adjacent to any tower of combustible construction.

Most of the changes in the oil burning equipment standard were of an editorial nature.

Of particular significance, however, was the change to permit unenclosed inside fuel oil tanks to be of 550 gals. individual size in place of the long existing maximum of 275 gals. individual capacity.

Tanks up to 550 gals. individual capacity will now be permitted providing that they are of such size and shape that they can be installed in and removed from the building as a unit.

Another significant change is the new requirements for heat reclaimers of the flue pipe type. Many such devices currently being sold on the market are said to create a hazard. The standards will call for Underwriters' listing of such equipment as well as certain installation requirements where approved units are used.

This standard was written in such a manner that it can be readily used in Canada with Canadian agencies referred to and material on Imperial gallons equivalent to U. S. gallons.

# Tecumseh

engineering

# VISION

## DEVELOPS THE BIG LINE

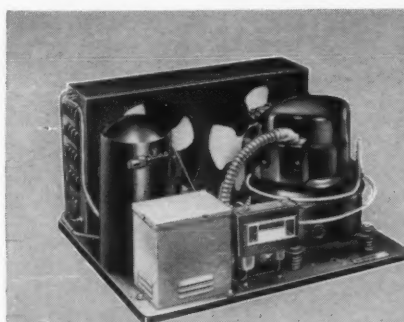
### OF COMPRESSORS FOR COMMERCIAL APPLICATIONS . . .

## 47 models in the 1/2 - 3 HP range

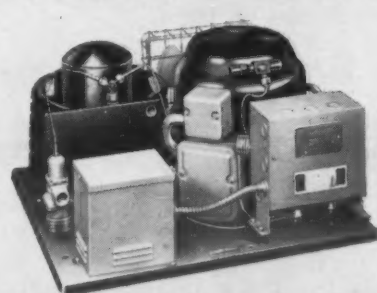
By extending the commercial application range of the economical Tecumseh hermetic compressors we are now able to offer our customers in this field the same basic advantages enjoyed by other Tecumseh customers. This includes low initial cost through efficient mass production, less weight and therefore lower shipping expense, low maintenance costs by quality construction, and fast field replacement through a well organized wholesaler program. With 57 Air-cooled models available from 1/9 — 3HP, 30 of them in the most popular commercial range of 1/2 — 3 HP, Tecumseh offers the most comprehensive line in the industry.

The Tecumseh water cooled line of commercial hermetic units has been effectively increased to include 12 models from 1/2 to 3 H.P. High or medium back pressure applications are available in all models. Plans are under way to include a complete range of low back pressure models. The Air-Water cooled line now includes 5 models in the 3/4 to 3 HP range. Where peak loads are present, and additional condenser capacity is required for short periods, these units offer the most economical answer.

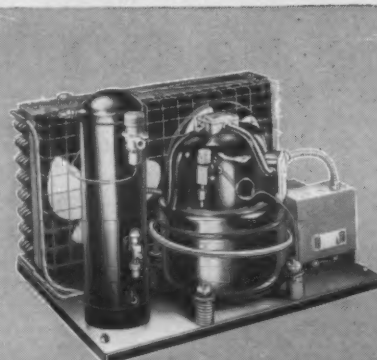
Your Tecumseh wholesaler will stock and sell this equipment. See him today!



30 Air Cooled Models  
from 1/2 - 3 HP



12 Water Cooled Models  
from 1/2 - 3 HP



5 Air-Water Cooled Models  
from 3/4 - 3 HP



The Leader Serving Leaders in the Air Conditioning and Refrigeration Industries

## TECUMSEH PRODUCTS COMPANY

MARION, OHIO

TECUMSEH, MICHIGAN

EXPORT DEPT: P. O. Box 2280, 24530 Michigan Ave., W. Dearborn, Michigan

## AIRO stands for

Speedy, dependable,  
world-wide service.

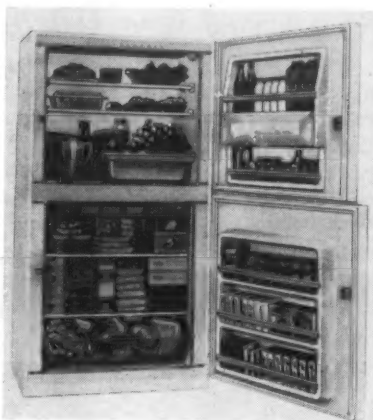
Air Conditioning and  
Refrigeration parts,  
equipment, supplies.

Write for Wholesale  
Catalog No. 57

## AIRO SUPPLY CO.

2732 N. Ashland Ave., Chicago 14, Ill.





DESIGNED to cut the number of shopping trips and save space, Westinghouse Electric Corp. introduced this 20.5-cu. ft. combination refrigerator-freezer, model DCK-22, which features a 385-lb. freezer section and automatic defrost.

### Large Combination Said To Cut Shopping

COLUMBUS, Ohio—A 20½-cu. ft. "Food Mart" combination refrigerator-freezer, designed to reduce shopping trips for homemakers, is being introduced by Westinghouse Electric Corp.

W. R. Arbuckle, manager of the Westinghouse refrigerator-freezer department, said the Food Mart, model DCK 22, is a two-door model with an 11-cu. ft. freezer at the bottom and a 9.5-cu. ft. refrigerator at the top. The refrigerator defrosts itself automatically after each cooling cycle, he added.

No suggested list price has been established.

The crisper holds three quarters of a bushel of fruits and vegetables at a controlled moist temperature. There are two full-width glide out shelves and, in the door, besides the cheese and butter keeper, is storage space for bottles, juices, and canned goods requiring chilling.

The freezer section holds 385 lbs. and features five wrap-around quick freezer plates. "Temperatures of 10° to 15° below zero assure quick freezing of foods and of ice in each of five trays," it was stated.

The unit also has a tilt-out basket at the bottom for bulky packages.

### 81 Dealers Win 'A Day At the Races' Contest

CHICAGO—Eighty-one northern Indiana and southern Michigan dealers won a trip to Washington Park (Chicago) race track for selling home appliances, radio, and television sets during May.

Jack B. Kubish, president of the host distributor, Great Northern Distributors, Inc., South Bend, Ind., estimated that the "A Day At The Races" promotion stimulated the sale of upwards of \$200,000 in appliance and electronics merchandise.

"As we approached the track we provided the dealers with a total of \$3,000 in betting money, a popular feature of the promotion," Kubish related.

"Gene Linder, Century Soft Water Co., South Bend, proved his skill in picking horses matched that of selling appliances when he diagnosed the daily double worth \$218.40."

Judson S. Sayre, president of Norge Div., Borg-Warner Corp., was on hand to welcome and talk with the dealers, as was John Thuett, Sylvania central district manager.

## NARDA Offers Four Reasons To Have Built-Ins Covered Under FHA Title 1

CHICAGO—Rebuffed in its first attempt to get built-in appliances included in Title I, FHA mortgages (remodeling), the National Appliance & Radio-TV Dealers Association is now considering further steps.

Al Bernsohn, executive vice president of NARDA, said that a letter to Sen. John Sparkman, chairman of the Senate subcommittee on housing, brought the reply that the determination of what appliances will be included or excluded was a discretionary matter for the Federal Housing Commissioner and not a subject for legislation.

Bernsohn said he now plans to explore the idea more fully with FHA officials and with appliance dealers with FHA contacts.

This is the first time in its history that NARDA has sought an extension of FHA appliance coverage, Bernsohn pointed out. He gave these four reasons for the move:

1. Most sales made by appliance retailers in the builder field are single housing units and remodeling construction.

2. Water heaters are considered a part of the plumbing, garbage disposal units and dishwashers are considered part of the sink, and the cabinets, sinks, and construction work are authorized under FHA-insured Title 1 mortgages. Only ranges, ovens, and refrigerators, are needed to make the complete kitchen.

3. With most important appliance manufacturers enunciat-

ing a new policy within the past year of disallowing builder discounts on small quantity sales, dealers have an obligation to show their appreciation by developing all the builder business they can for their brands.

4. Failure to authorize FHA insurance for remodeling commensurate with that provided new construction discriminates against the former group of home buyers and owners.

Jack Carter, staff director of the Senate subcommittee on housing, in replying to Bernsohn's letter, said that Congress has in the past recommended that "free standing items" continue to be ineligible for Title I financing because of "great selling abuses" reported to Congress.

"In 1956, however, in order to recognize the technological changes in home improvement items," Carter said, "the Senate Banking and Currency Committee in Senate Report No. 2005,

2nd Session, 84th Congress, sought to restore considerable discretion in the FHA commissioner with respect to the eligibility of items for Title I financing.

"It is, therefore, felt that the commissioner now has policy guide lines broad enough and yet sufficiently specific to respond to changing circumstances and technology so long as the items determined to be eligible by him substantially protect or improve the basic livability or utility of the property."

#### SEND FOR REPRINTS

Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors.

Only 40¢ each.

For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

## PERFECT PAIR FOR LONGER WEAR ...and smooth refrigerant flow!



## CHASE® copper refrigeration tube and solder-joint fittings!

Here's a cool couple: Chase Copper Refrigeration Tube and Chase Wrought Copper Solder-Joint Fittings. Together, they're the basis of refrigeration and air-conditioning systems that combine the utmost in durability and dependability.

Close O.D. and I.D. tolerances assure uniform expansion and contraction. No fough shoulders or surfaces to slow down circulation — coolants flow smooth and easy, *always!*

Your nearby Chase wholesaler stocks Chase extra-soft Refrigeration Tube, Chase TYPE L Copper Water Tube and Wrought Copper Solder-Joint Fittings to meet your every need. He's the man to contact before starting your next installation!

The Nation's Headquarters for Brass, Copper and Stainless Steel

Atlanta Baltimore Boston Charlotte Chicago Cincinnati Cleveland Dallas Denver Detroit Grand Rapids Houston Indianapolis Kansas City, Mo. Los Angeles Milwaukee Minneapolis Newark New Orleans New York (Maspeth, L.I.) Philadelphia Pittsburgh Providence Rochester St. Louis San Francisco Seattle Waterbury

**Chase**  
BRASS & COPPER CO.  
WATERBURY 20, CONNECTICUT  
SUBSIDIARY OF KENNECOTT COPPER CORPORATION



## Inside Dope

By GEORGE  
F. TAUBENECK

(Concluded from Page 1, Col. 1)  
static and man-made signals which travel close to the earth's surface.

Now in its adolescence, this program began when "ham" radiomen discovered an unusual type of radio signals crackling in from outside the atmosphere. Some sources were spotted at points of cosmic catastrophes—exploding stars which deliver a power output 10 billion times that of the sun!

Another kind of unexplained outer-space signal comes from the large masses of hydrogen in our own Milky Way. Nobody really knows whether or not we are being signalled by thinking, living beings, but it is possible.

We live in a minor solar system situated in fairly common type of galaxy. Surely, somewhere out there intelligent beings exist. God wouldn't let all those magnificent heavenly bodies go to waste, we figure.

If all other star-galaxies are receding from us at speeds proportional to their distance, as astronomers believe, then at four billion light years' distance the speed of recession should equal that of light. Any heavenly bodies beyond this point would travel too fast for their radiation ever to reach us.

Thus, "ham" radio astronomy and radar actually may bring us to the end of observable space.

But that doesn't mean there aren't enormous numbers of stars and planets and people 'way out there beyond. . .

In contrast, how little can we get, we too-proud Earth humans?

### Sport of Democracy

If that sort of philosophical quandry perplexes you—as it does "Dope"—perhaps it will be a relief to get back to baseball. Here come more National Pastime Anecdotes we've heard:

In a salary conference with owner Walter O. Briggs of the Tigers, Hank Greenberg demanded \$50,000.

"Have you any idea what I was paid at your age?" protested Briggs.

"Much less than that, I presume," bargained Greenberg. "However, as a ballplayer, I won't last long. How much will I be making at your age?"

It was a telling point. Ironically, though, later in life as the Cleveland club general manager, Greenberg enjoyed a relatively high-bracket income.

'Twas in 1926 that the Dodgers and Yanks pre-season ex-

hibited in Atlanta. Dazzy Vance, who was scheduled to pitch for the Bums, invited a few Georgia relatives, and put them in a box near the Brooklyn dugout.

After Daz disposed of the first Yankee batter Koenig doubled, Gehrig tripled, and Ruth and Lazzeri homered. Vance was "thoo" for the day. Out of the showers and dressed, Dazzy joined his relatives.

"Cousin," opined a latter, "thass a mighty easy way to earn a living."

It was widely known that Babe Ruth and Stan Musial began as pitchers, but few remember that Tris Speaker also belongs to that exclusive club.

In a minor league game Tris gave up 22 hits, all for extra bases.

"Nobody got a single hit off me," he smiles nowadays, when confessing.

### Well Done, Stout Fella!

Billy Hoefft of the Tigers was impressed by Don Larsen's "perfect" game in the 1956 World Series, naturally. But that game couldn't light a candle to one Billy pitched for Oshkosh, Wis., high school.

Hoefft struck out 27 batters in a row. It was his fifth no-hitter, and the pluperfect job of all time.

"This year I invented a 'humbug' pitch," Satch Paige reveals. "It is different from my dippy-doodle pitch and hesitation toss. My humbug pitch hums and makes the batters buggy."

Paige was 48 in 1957, or 67 in 1955, depending on the records you choose to believe.

### Odd But Interesting

Unhappy on the bench was Frank House. He'd been supplanted as first-string Detroit catcher by Red Wilson (for one week).

"Boss," Frank buttonholed Manager Tighe, "have you forgotten I'm here?"

"Heck, no," Jack rubbed. "Every day I borrow your mitt to catch in batting practice."

Practically nobody disputes the assertion that Walter Johnson had the swiftest fast ball of all time. Until his later years he never even used a curve.

He had a dozen 20-game-win seasons (including such fancy totals as 25, 27, 28, 32, 36) and 113 shutouts! Here's a sample.

On a weekend in New York (1908) he pitched a four-hit shutout on Friday, followed by a three-hit shutout Saturday. No game Sunday. Monday he started again, blanked the New Yorkers on two hits.

Boston vs. Detroit, in the Bean city, August, 1956. Bill Tuttle scored from second on Red Wilson's blooper—escaping catcher Sammy White's block and tag. Sammy screamed bloody murder at Umpire Frank Umont, and threw the ball away in his excitement.

From the outfield Ted Williams tossed the ball back into the infield, while other Sox joined White in the argument with Umont. Nobody picked up the ball, so Wilson snuck all the way around the infield, pushed his way through the crowd at home, stepped on the plate and stood there.

He had to call Umont's attention to the fact he had scored.

Retired "Babe" Pinelli thinks one of the funniest things he ever saw was a fight between Charley Schanz and Bill Raimondi. Each knocked the other's glasses off. After separation, each donned the wrong specs.

"Holy Moses!" cried Raimondi, "he's blinded me."

HALSTEAD & MITCHELL ENGINEERS PROVE . . .

# A 100-TON COOLING TOWER CAN BE QUIET

### HERE ARE TWO, NEW LARGE SIZES ADDED TO HALSTEAD & MITCHELL'S COMPETITIVELY-PRICED EC COOLING TOWER LINE

**THE EC LINE.** The addition of the 80- and 100-ton capacity towers extends the range of the more-value-per-dollar EC line. All 12 models, 5 to 100 tons, have outstanding features never before offered in this price group.

These include increased corrosion resistance due to rugged, 14-gage steel cabinets (12-gage sumps on the largest sizes)—weatherized by application of Vinsynite, Vinyl Zinc, and Chlorinated Rubber coatings. Exclusively, H&M offers pressure-cresoted wetted deck surfaces with the industry's only 20-Year Guarantee against rotting or damage due to fungus attack. New, sealed fan bearings are lubricated for life. Gravity-type distributing pans reduce pumping head, and cut down windage losses. Sump water levels are automatically controlled by integral float valves.

**QUIET.** Large diameter, four-bladed, deep pitch fans are belt-driven at low speeds by special weather and splash-proof motors. The EC-80 and EC-100 are driven at speeds of only 400 and 450 RPM. They're really quiet! Twin fans and drives power the three largest sizes, and all fans are of zinc plated, chromate dipped mild steel.

EC Series Cooling Towers are available in capacities of 5 thru 100 tons in standard, factory assembled models, or as Take-Aparts (ECK Series) for difficult-to-get-at installations. Residential, direct-drive ECD Series, with all the custom features and also competitively priced, come in capacities of 2 thru 7½ tons. Call your nearest Halstead & Mitchell wholesaler for delivery and prices or write: Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

WRITE FOR COMPLETE DETAILS.






**Redmond**  
**MICROMOTORS**  
One of largest stocks  
in the world!  
FACTORY DISTRIBUTORS  
MARVIN L. "FERGIE" FERGESTAD  
**CYCLO-FREEZE CORP.**  
6318 Cambridge, Mpls. 16, Minn.  
West 9-6794



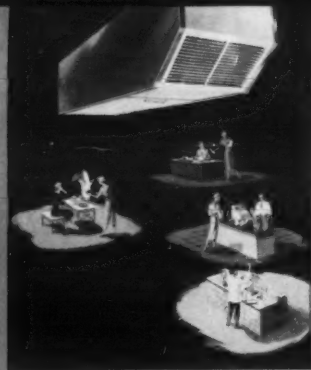
the quality tells...the quality sells

*new* **JANITROL** AIR COOLED  
packaged air conditioner



Flexible and compact—  
fastens to ceiling  or  
stands upright on floor...   
adaptable for duct system. 





Versatile new  
**JANITROL®**  
packaged waterless  
cooling conditioner

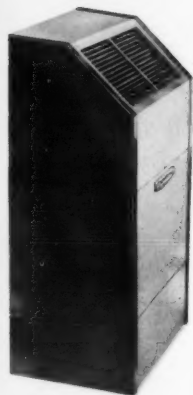
**Makes installation easy, even in those  
"problem" locations—brings new efficiency  
and beauty into the picture, too!**



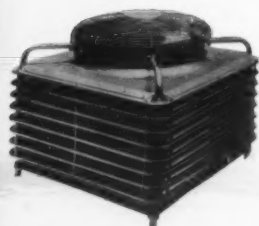
Nothing in air conditioning matches the versatility and performance of this brilliant new Janitrol "packaged" air cooled cooling conditioner.

It adapts itself to most every installation situation you'll ever face in commercial and light-industrial applications . . . because it can be fastened to the ceiling or positioned vertically on the floor, and is readily adaptable for use with a duct system. Either way, big savings in space result. Waterless operation eliminates time-consuming plumbing, allows operation in areas of water scarcity. And it's as easy on the ears as it is on the eyes, because all moving parts except the blower are contained in the remote, air-cooled compressor unit. Thus operating noises are isolated from the conditioned area.

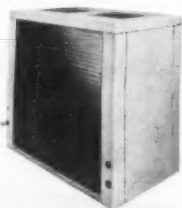
Now, even more than before, you can count on Janitrol for the right "packaged" conditioner at the right price . . . air-cooled and water-cooled models . . . combination heating-cooling conditioners for year round application. All backed by Janitrol's reputation for quality, dependability and expert technical assistance. Ask your Janitrol representative for full details.



**REMOTE COMPRESSOR-CONDENSER UNITS FURNISHED WITH  
NEW JANITROL AIR-COOLED PACKAGED CONDITIONER  
CAPACITIES\***



SRA-7 22,000 btu.  
SRA-9 35,000 btu.  
A-401 & 403 47,500 btu.  
SRA-11 58,500 btu.



A-603 76,000 btu.

\*95° F. Dry Bulb air entering condenser, 80° F. Dry Bulb, 67° F. Wet Bulb air entering evaporator, approximately 400 CFM per 12,000 btu.

**ARCHITECTS, ENGINEERS AND  
CONTRACTORS INFORMATION SERVICE**

Write today for complete A.I.A. files on Janitrol cooling and heating in buildings of every type, and for Janitrol specifications service. There's no obligation.

**Janitrol SAC and SACF  
water-cooled conditioners**



Model SAC—has built-in filters and blower, connects to present duct system.



Model SACF—packaged, console-type unit operates without duct connections.

Compact, smartly styled, easily adapted to existing space. Optional 2-stage operation with SAC-60 5 h.p. models. Two separate compressors are provided—a 2 h.p. and a 3 h.p. In mild weather, the 3 h.p. stage controls humidity without overcooling. The 2 h.p. stage turns on automatically when rising temperatures demand full cooling power. Controlled sequence starting. Capacities\* 26,800, 36,900 and 63,700 btu.

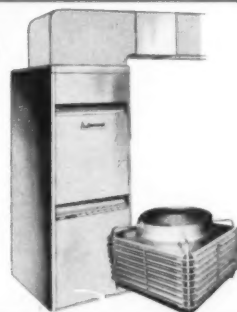
**JANITROL WIN-SUM-MATIC  
YEAR 'ROUND CONDITIONER**



Combines thrifty gas heating, waterless cooling in little as 4½ sq. ft. of floor space. Unique bypass eliminates heat exchanger resistance on cooling cycle, gives correct air flow for heating and cooling without seasonal adjustments. Air cooled Pride O' Yard unit is low, sleek, efficient . . . shames ordinary "doghouse" models. ADD-ON cooling option—install for heating only, add cooling later. Upflow and downflow models, 100,000 and 140,000 btu./hr. heating, 22,000 to 58,500 btu./hr. cooling capacities\*.

**JANITROL SRA ADD-ON COOLING**

Adapts most any warm air furnace for thrifty, efficient central cooling. Cooling coil mounts in duct, beautiful air cooled Pride O' Yard unit goes outside. Powerful, quiet performance with outside temperatures to 125° F. Easy to install, moderately priced. Waterless operation eliminates plumbing, sewage, water supply problems. 22,000, 35,000 and 58,500 btu./hr. Capacities\*.



**JANITROL GAS-FIRED DUCT FURNACES**



Designed for installation in a duct where the air is circulated by a remote fan. Especially adaptable for industrial heating applications in combination with cooling. Low in cost, save installation time and labor. Unit sizes from 85,000 to 300,000 btu./hr. New 200,000 and 300,000 btu./hr. units may be combined to provide unlimited capacity range.

**JANITROL HEATING AND  
AIR CONDITIONING DIVISION**

SURFACE COMBUSTION CORPORATION  
COLUMBUS 16, OHIO  
In Canada: Moffat Heating & Air Conditioning Division  
Moffats, Ltd., Toronto 15

Also Makers of Surface Industrial Furnaces, Kathabar Humidity Conditioning, Janitrol Residential Heating and Cooling Equipment.



## Professor Offers Slant

## 'Contractor Can Use Short Form Heat Load Calculation, But Only for Pricing'

E. LANSING, Mich.—Why should an air conditioning contractor go through all the tedious effort of calculating the precise heat gain and loss of every room in the building he hopes to air condition? Why not use the quick, short form?

"You can make a quick guess at the heat load for pricing purposes if you want to," Prof. Robert Irwin of Oklahoma A & M university told his impatient class during a short course on air conditioning and heating at Michigan State university recently.

## 'HAVE TO TAKE FULL CARE OF THAT LOAD'

"But don't try to kid yourself about what you have to do to take care of that load. If you work out all the factors, you can see where you can safely cut corners. With full information at hand, you'll know what you are cutting and what effect that will have on the job. But if you don't have full information you can get yourself into a lot of trouble."

Prof. Irwin was instructing a group of heating dealers on how to figure the heat gain and loss in a commercial building, specifically a medical clinic. The class was part of a forced warm air conference sponsored by the National Warm Air Heating & Air Conditioning Association.

Here are some other tips:

## 'ISOLATE OBNOXIOUS ODORS FROM UNIT'

"I can see no reason why you shouldn't use a central return system in a clinic," he declared. "If there is one area that produces obnoxious odors, it should be isolated from the central system and treated separately. This could be done by exhausting all the air from the offending room and replacing it by 100% fresh air or by washing the air before it is returned to the air conditioner."

For a gas furnace, at least 1 sq. ft. of free air should be provided for combustion for every 1,000 B.t.u. input.

If your total heat load calculations fall about half way between two sizes of equipment, take a long look at the job before selecting the smaller size.

See if you can take any measures to cut down the heat load before installing undersized equipment. If you don't, the equipment may not be able to produce the comfort conditions the owner expects.

A quick way to determine the heat load that lights will impose on a space is to apply the

following formula to the expected light level. If the light level is to be high—in the neighborhood of 40 ft. candles—allow 16 B.t.u. per sq. ft. of ceiling area. If the level is to be medium—around 25 ft. candles—allow 12 B.t.u. per sq. ft. of ceiling. If the light level is to be low—"saloon level," Irwin termed it—allow 6 to 8 B.t.u. per sq. ft. of ceiling.

## B.T.U. PER SQ. FT. UPPED IN BRIGHT AREAS

For real bright areas, where light intensity will go to 60 to 80 ft. candles, the B.t.u. allowed per sq. ft. must go up proportionately, he added.

In a commercial application,

it can be assumed that the lights will be used 100% of the time, Irwin noted. He did not recommend counting the light fixtures because this is subject to wide variation as use of the structure changes and as requirements for lighting increase.

Outside light can be disregarded in commercial structures because it will be effective for only short distances from the windows anyway.

No reduction in heat load should be allowed for refrigerated fixtures, he noted in reply to a question. The cold stays inside the fixtures and does not affect room temperature.

Comfort has nothing to do with outside temperatures, Irwin emphasized repeatedly. The system must be designed so that the occupants will be comfortable at all load conditions.

## Bank's Electronic Air Cleaner Expected To Reduce Upkeep Cost

MINNEAPOLIS — Richfield State Bank of Minneapolis has installed a \$5,000 electronic air cleaner system that will remove at least 90% of all dust particles in the air.

It was the first of several firms throughout the country to install the system developed by Minneapolis-Honeywell Regulator Co.

S. L. Jerpbak, president, said the new equipment will cut down on building maintenance costs and will reduce upkeep expenses on precision office machines.

The cleaner operates this way:

Dust-laden air is passed between the wires charged with 13,000 volts. The particles become ionized and are attracted to collector plates. A control

panel indicates when the collector plates have become heavily laden with dust and dirt. A push of a switch sets in motion a washing procedure that cleans the plate.

The electronic air cleaner functions as part of the building's heating and air conditioning system.

Other units were to be installed in the Mountainside hospital of Montclair, N. J., the West Hudson hospital of Kearny, N. J., and the West Roxbury, Mass., Veterans hospital.

Monsen Refrigeration Co. was installing the Mountainside air cleaner as part of the program to modernize the hospital's maternity wing. The West Hudson unit will be placed in the system.

designed  
with Fans  
in mind

Upgrade  
your  
equipment  
...at no  
extra cost!

## The Westinghouse Five-Year Warranty on FHP Motors Is a Selling Plus For Your Product!

Would you like to upgrade your product... at no extra cost? You can... by switching to Westinghouse five-year warranted shaded-pole, and permanent split-capacitor motors for your equipment!

The unique Westinghouse Five-Year Warranty is founded upon features exclusive in the industry. The secret behind this amazing guarantee is a rotor shaft that floats on oil! An ingenious oil circulation system provides a continual flow of oil through the system (from the largest capacity reservoir in the industry)! Wicks serve as filters—oil carries off the heat.

What does this mean to you? Cool operation, quiet as a whisper! Long, virtually corrosion-free bearing life! AND a Five-Year Warranty that protects YOU and YOUR customers!

There are many other exclusive features, too: precision construction for quiet operation—nylon runners to absorb end-thrust, and windings lastingly sealed in Westinghouse-developed, moisture-resisting varnishes...

baked for through-cure and higher bond strength; more rigid drawn-steel brackets; oversize shafts—all designed to meet Underwriters' Specifications. Put 'em together and you get the finest possible motor for every air-handling requirement!

Want More Information? Contact your nearby Westinghouse sales engineer, or fill out the coupon below. We'll do the rest.

J-03041

Westinghouse Electric Corporation  
Small Motor Division  
Lima, Ohio

DB-2835

NAME \_\_\_\_\_  
TITLE \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

YOU CAN BE SURE...IF IT'S Westinghouse

Small Motor Division • Lima, Ohio

FAN BLADES

12" - 15" - 16" - 20"  
22" - 24" - 30" - 36"  
42" - 48" & 54"

Other sizes made to your specifications.

WIRE GUARD, SHELVES, ETC.

C&H Air Conditioning Fan Company, Inc.  
1591-1623 DEKALB AVE.  
ATLANTA 7, GA.  
PRECISION QUALITY SINCE 1935



## 'Day of One-Man Shop Gone'

# Contractor's Success Requires that He:

## 1. Know Costs 2. Delegate Responsibility

DETROIT—The day of the one-man service organization is gone, believes Victor Fabian, president of Square Deal Refrigeration, Inc. here, who came into the business that way himself a number of years ago.

Fabian now heads a refrigeration and air conditioning contracting organization that employs four salesmen and 13 installation and servicemen. He argues that one man cannot do both sales and service and maintain a thriving business.

"It's harder today than it used to be," he explains, "because the customer now demands his air conditioning or refrigeration problems packaged. He wants

service from the same organization that sells the equipment. If you service, but don't sell, you lose out. We know. It's happened to us."

To succeed in today's market, Fabian has found, the refrigeration man must learn to do two things—both of them difficult. One is to know his costs and the other is to delegate responsibility.

While he does not pretend to know all the answers, Fabian believes his attention to these two important factors has contributed strongly to the profitable and flexible operation of his firm.

Square Deal handles Friedrich

commercial refrigeration equipment and Frigidaire and Mathes commercial air conditioning lines. Its business is pretty well concentrated in the commercial field, though Fabian is now eyeing the residential market. Heating is playing a role of growing importance to the business.

In order to make a profit on a job, Fabian says, the contractor must know how much it is going to cost him to make an installation. If he cannot get enough for the job to cover those costs and earn a reasonable profit, he can conscientiously turn the job down—without regrets.

To help the salesmen make intelligent bids, William Mensen,



CHECKING COST REPORTS on previously installed jobs to help make an intelligent cost estimate on new work are three key members of Square Deal Refrigeration, Inc. (l. to r.) Phyllis Howland, office girl; William Mensen, assistant general manager; and Victor Fabian, president.

assistant general manager and assistant sales manager, has set up a special file. Its sole purpose is to help in estimating new work.

Mensen, a refrigeration engineer, is a key man in the Square Deal organization.

### Job Cards Show Costs

In this file are job cards from previous installations. There are two 5 by 8-in. cards for each

job, filed by name of purchaser. On these cards are recorded all the costs that went into the actual installation.

One card breaks down labor costs, giving a time record of each man and separating electrical and installation work. It also provides room for a summary of labor costs and a breakdown of material and labor costs under the following headings:

New Material  
Used Material  
Installation  
Electrical  
Sub Contract  
Warranty

The second card breaks down all other costs on the job. Across the top is a cost summary which provides space for the amount of the sale, materials, labor, and sales tax.

On blank lines below, the office girl, Phyllis Howland, enters all cost items other than labor, taking her information from suppliers' bills as they are received. This would include such costs as sub-contracted work, use of a crane, freight charges, financing charges, and any extras that may have been incurred.

"When the bookkeeper totals up these figures, we know to a cent how much the job cost us," Fabian declared.

This information is at the disposal of the salesmen. In making their estimates on a new job, they refer to a past job of similar proportions and similar cost factors and find out what the cost will be.

### Cards May Reveal Hidden Cost on New Job

"Of course," Fabian pointed out, "no two jobs are identical. But a comparison will often show hidden costs that might otherwise be overlooked in estimating.

"If you know what the cost of a job is," he continued, "you can quote a realistic figure that assures a reasonable profit. You can be sure you don't lose a deal because of underbidding.

"Then you know the man who far underbids is either skimping on quality, in parts or inferior help, or losing his shirt and you know that you cannot do either of these and survive. If he gets the job, forget it. You're better off without that sort of business.

### Some Customers Are 'Sharp Buyers'

"My competitors are all good friends of mine," Fabian said. "When we get together at meetings we often discuss various jobs that we had bid on and how the job turned out. We learn from each other's experiences.

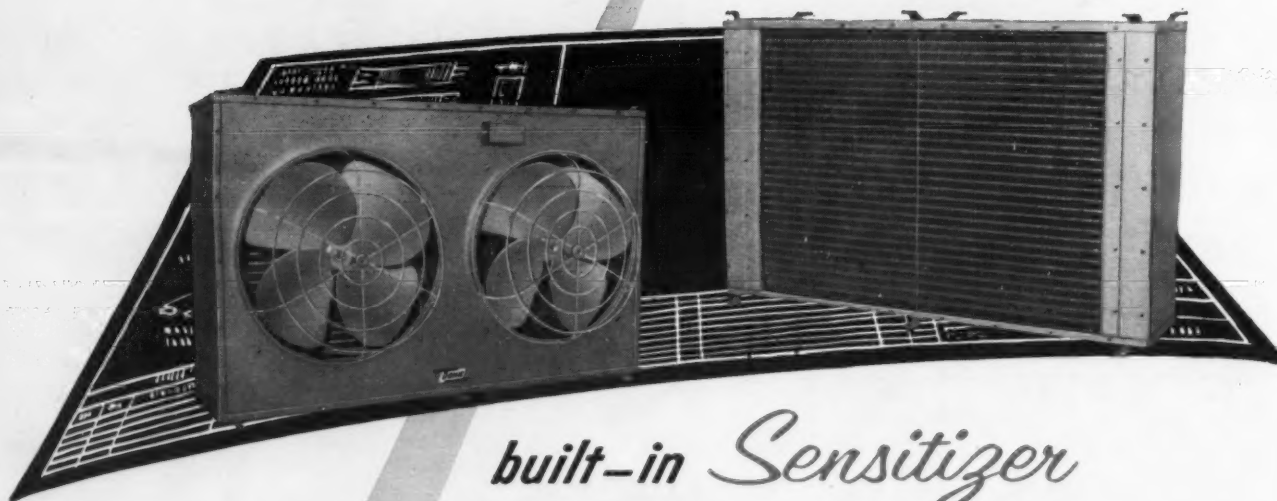
"After talking it over sometimes we find that the customer was just a sharp buyer.

"We know shyster competition exists," he said. "But it is (Continued on next page)

# BOHN Presents

## the NEW ANGLE

### in Air-Cooled Condensers



*Reduces Cost  
and Simplifies  
Installation*

*built-in Sensitizer  
maintains proper head pressures*

BOHN engineers have developed a winter controlled air-cooled condenser equipped with built-in sensitizer to maintain head pressures when outside air temperature drops . . . eliminate hand valves in the control system . . . simplify piping.

Cost of extra valve and installation expense is avoided. Further cost reduction is achieved by designing for simple multiple circuiting.

Of finest quality, new BOHN air-cooled condensers are economically priced. They offer sturdy, rust-resistant construction in grained aluminum cabinet housing . . . trustworthy capacity ratings . . . famous Betz coils . . . fans which operate quietly . . . life lubricated ball bearing motors with thermal overload protection.

Read full details on the NEW ANGLE in air-cooled condensers. Reserve your free copy of the new BOHN CATALOG BU-1.



Manufacturers of Commercial  
Refrigeration, Industrial Air  
Conditioning and Special Heat  
Transfer Surface

BOHN ALUMINUM & BRASS CORPORATION • BETZ DIVISION • DANVILLE, ILLINOIS





RIG FOR FILLING service refrigerant cylinders is demonstrated by Joe Otremba, Square Deal's "expediter," who put it together. Refrigerant from one of the three drums at left is passed through refrigerating system and then through a hand valve to the service drum on the scale.

(Continued from preceding page) not as formidable as many salesmen and contractors like to kid themselves that it is."

To further help his salesmen make accurate estimates and to expedite the installation, Fabian has developed a simple installation instruction form. This is filled out by the salesman, in duplicate.

After noting the pertinent information about the owner and location of the job, equipment sold is itemized in the space provided. The salesman also makes notes of anything unusual required.

Then he writes in the delivery estimate, the size of door through which the equipment will have to pass, amount of trade-in and other remarks.

Following that are separate spaces to itemize estimates for electrical, plumbing and ductwork along with pertinent remarks about each.

#### Sketch of Job Is Made On Back of Estimate Form

Installation details are then noted. These include estimated installation time, materials, compressor location, tubing size, length of run, kind of gas, special controls, and temperature desired.

At the bottom, he jots down any additional construction that will be needed, such as shelving, meat rails, compressor rack, etc.

On the reverse side, he makes a sketch of the job.

The salesman compares his estimate with similar previous jobs and then turns this form in to the office.

One copy of the form is kept by the office girl for preparing job cards and filing, and the other is sent to Joe Otremba, Square Deal's "expediter."

Otremba assembles the materials needed for the installation, ordering any that are not in stock. Then Jerry Fraeyman, the company's service manager, takes over, supervising all field installation work.

While knowing costs is very important to the refrigeration contractor, the ability to delegate responsibility is also essential, Fabian notes.

The only way that the refrigeration man can keep his organization flexible enough to meet changing market conditions, is to delegate responsibility.

One man can't do it all, Fabian contends. He learned that early in his career.

Fabian recalls that when operating by himself he used to solicit refrigeration service business all winter, promising immediate service. When summer came, he found he couldn't deliver quick service to everybody. He had to have help.

So he hired and trained another serviceman to work along with him. As his business grew,

he found that the key to further growth was sales. People preferred to have their equipment serviced by the same company that sold it.

After losing many service accounts because he did not sell equipment, Fabian decided it was time he turned his efforts to sales. So he delegated all responsibility for service to his serviceman.

"Sure, it's flattering to have

an account ask for you personally to service their equipment," Fabian says. "But if you are going to expand, you have to resist. Explain that you have trained your serviceman and he will do as good a job as you would. Sell him to the customer. Then give him the responsibility for carrying the job through."

As the firm's interest gradually shifted from commercial refrigeration to air conditioning, Fabian had to hire more salesmen and more servicemen. Each man was given his own duties and responsibilities.

From the beginning there was a spirit of friendly cooperation among members of the company, he said. If one man or crew was over-taxed with work another man would pitch in and help out. This spirit was gratifying to all, but as the work load increased it was found that often a man's own work got behind due to his helping another.

Fabian saw that each man

must have his designated area of responsibility and other means such as overtime, etc., had to be employed to keep the work going. Specific duties had to be pinned down in writing and careful records kept on all phases of the business.

Fabian's own duties shifted, too. He was required to spend more and more time in actual direction of the company, seeing vendors' salesmen, and keeping up with developments in the industry.

"I try to see all salesmen, if I can spare the time," Fabian declared. "You can learn a great deal about what is going on in this industry from salesmen. It's quite an education. But I wish they would make appointments. Occasionally, though I don't like to, I have to walk out on one who drops in without warning because of my own obligations."

The future is particularly bright for the refrigeration man

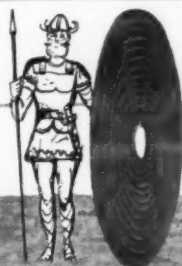
today, he contends. While the commercial refrigeration field has diminished in some areas where large national-buying chains dominate the market, new opportunities are arising in the air conditioning and heating fields.

#### Shift to Air-Cooled Equipment Is Boon

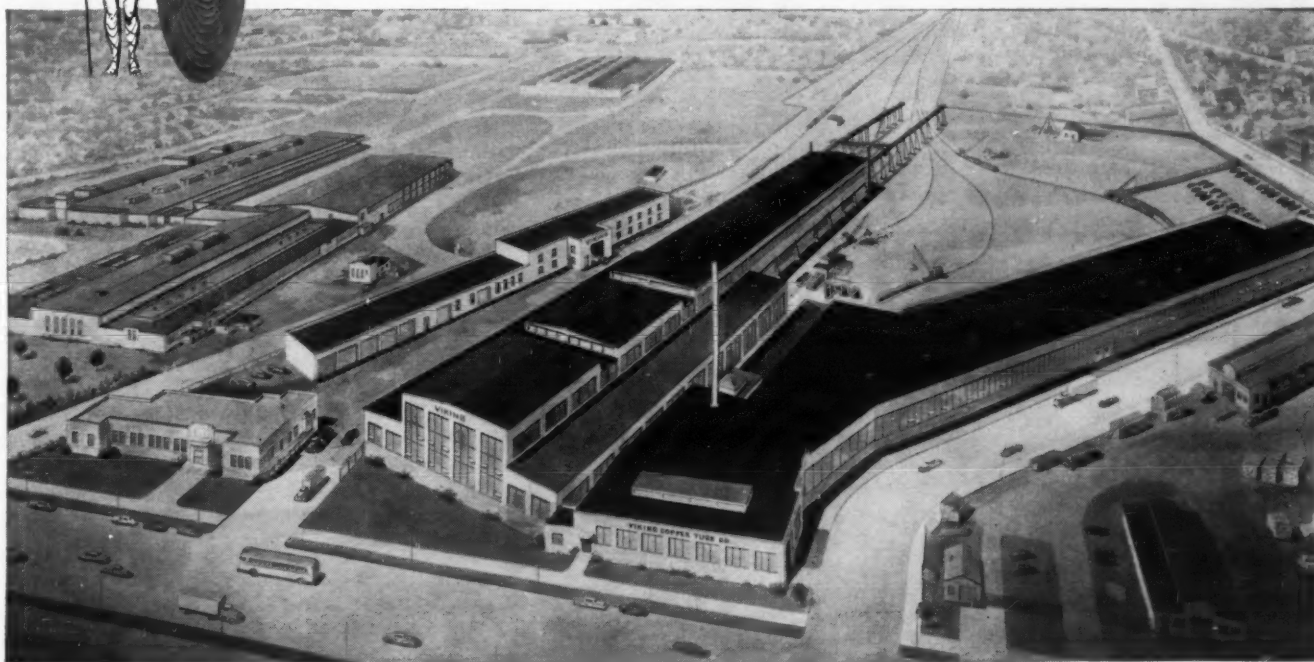
The rapid expansion of the market for air-cooled equipment opens up new horizons for the refrigeration man. If he had feared that the heating man would get the residential packaged cooling business, the shift to air-cooled remote units makes his skills more valuable than ever today, Fabian asserts.

With the heating and cooling fields getting closer together every day, the refrigeration man will find that he can do heating installations as well as cooling—finding more opportunities for new business.

(Concluded on next page)

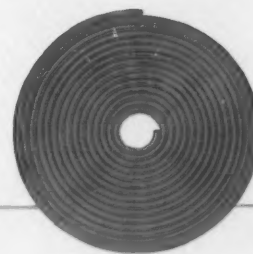


there is a difference in copper tubing . . .



the difference in VIKING is . . .

a modern plant, SPECIALLY DESIGNED for  
the production of the Thin Wall COPPER TUBING



A spacious, modern, automated plant . . . specially designed and constructed for the sole purpose of fabricating thin wall copper tubing . . . is a key "difference" contributing to the superior quality of VIKING copper tubing.

In these up-to-the-minute facilities VIKING is using the very latest machinery and quality control devices designed for the production of thin-wall tubing. This equipment, combined with highest grade materials and "know-how", assures the highest standards of accuracy, uniformity and finish in VIKING copper tubing.

VIKING's superiority in quality is being constantly translated into lower costs by fabricators and is one more reason why more and more manufacturers are specifying VIKING copper tubing for air conditioning units and coils.

VIKING copper tubing continues to be the result of the combined efforts of skilled craftsmen seeking always to create a tubing that will do the job better, faster and at lowest cost.



**VIKING** COPPER TUBE CO.  
CLEVELAND 10, OHIO

PRECISION DRAWN SEAMLESS COPPER TUBING

#### BENDING TEMPER

The proper kind of strength and ductility is vital in tubing used for refrigeration and air conditioning purposes. VIKING copper tubing possesses these properties to a far greater degree than other types of tubing. Its temper assures flawless fabrication.

#### ABSOLUTE, UNVARYING STRAIGHTNESS

A battery of electrically controlled straightening machines keep VIKING copper tubing absolutely, unvaryingly straight. In addition, these machines precisely temper the tubing, imparting to it the correct surface hardness . . . assuring ease in fabrication resulting in substantial savings in time and labor.

#### ELECTRONIC QUALITY CONTROL

An electronic "Brain" detects the minutest flaw or imperfection in the walls of VIKING tubing . . . automatically discarding defective tubing. Trouble-free fabrication is virtually guaranteed — operational failures almost completely eliminated.



## Contractor's Success --

(Concluded from preceding page)

"I would like to see the refrigeration contractor become more aggressive," Fabian declared. "Many of them seem to be afraid to go after new business."

"Heating is a natural step in the normal growth of a refrigeration contractor," he pointed out. To get the business, he must be able to offer both heating and cooling, including necessary plumbing, electrical, and other trades, as a package.

"If the refrigeration man feels he does not know enough to handle heating work, he can subcontract it to a heating man. But he should set about learning how to do heating and to set up his own heating installation crew," Fabian said.

The refrigeration man is very fortunate. For him to take on heating is a much easier task

than that facing the heating man who learns refrigeration.

Square Deal has four outside salesmen, each operating in an assigned capacity and location," Fabian said.

### Salesmen Don't Stay Long

"Most of our employees have been with us for a long time, but salesmen don't stay long. Some are lost to competition. In the case of one really good man we had, General Motors got to studying his record and solicited him away from us."

Fabian said he uses ads in the local newspapers to find new salesmen. That calls for taking time to interview as many as 15 applicants.

"You don't give up—don't say it's impossible—you know you can't do all the work yourself, so you must be patient and try

to get the best salesman possible."

He said he preferred to hire experienced men. But knowing that there is a shortage, the logical alternative is to hire a likely candidate and try to train him.

On the service side, Square Deal Refrigeration operates six trucks. Two are 1-ton panels and the other four are sedan delivery type vehicles.

Each truck is kept stocked with all necessary items for normal service operation. For installation jobs the additional equipment called for is put into the truck by Otremba, before the truck goes out.

All parts and supplies used are checked out on the return of the truck and are replaced from stock so that each truck is fully stocked for service calls at all times.

Otremba estimates the inventory of stock parts, backing up

his service trucks, is in the neighborhood of \$15,000.

Otremba plans his buying of parts and supplies so as to take full advantage of quantity discounts.

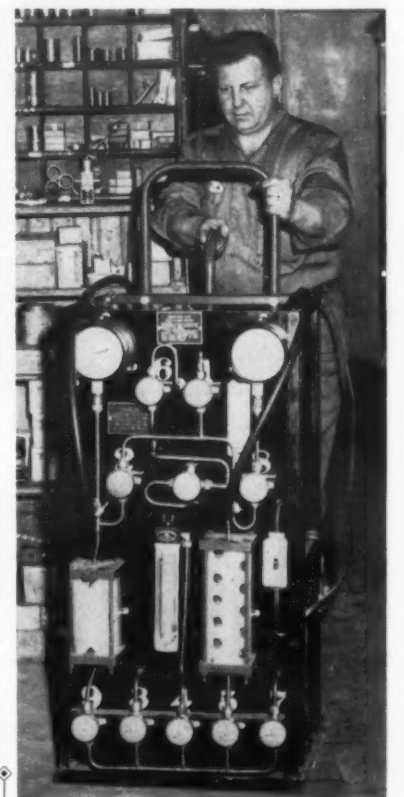
The shop, where motors and compressors are repaired and overhauled and certain fabrication operations are done, is arranged for maximum efficiency.

While most of the tools and equipment are standard for this size and type of operation, there are a few items of special interest.

### Refrigerant Transfer

A motor test panel, fabricated by the Square Deal men, is convertible from 115 to 230-volt power by the flick of a switch. In conjunction with the motor panel is a torque tester resembling a miniature dynamometer for testing starting torque.

Refrigerants are stored in 145-lb. drums and transferred to smaller service cylinders



PORTABLE CHARGING UNIT that can carry two drums of refrigerant and has vacuum pump that will pull a 30-in. vacuum is wheeled out of shop by Otremba.



He's on the dance floor every morning at  seven!

The floor beneath this skilled worker's feet is a unique feature of General Electric's new Tyler, Texas plant where whole-house air conditioning equipment is built. Made like a dance floor of tough hickory planks laid edge-up instead of flat, it's periodically varnished to a gleam and vacuumed twice daily. Dust from a surface like this just can't be scuffed up to mar precision-machined components.

And it's here that compressors—heart of General Electric central system air conditioning—are assembled and hermetically sealed. The room itself is temperature-humidity controlled, workers wear lintless smocks and goatskin gloves to safeguard each step. Extraordinary steps these—but the result is a compressor of unsurpassed workmanship that contributes greatly to the overall excellence of General Electric air conditioning equipment.

Quality control is the keynote at all General Electric plants. To dealers, it means General Electric Home Heating & Cooling Systems are quality products that can be installed with complete assurance of customer satisfaction.

**Free! Promotional Sales Aids For Dealers!** Cooling Program Sales Power Pack #1. Loaded with powerful sales material—hard-working ad mats, radio and TV spots, and a direct mail campaign that seeks out your best prospects. Write your local distributor or General Electric Home Heating and Cooling Department, Tyler, Texas.

Progress Is Our Most Important Product

**GENERAL  ELECTRIC**

through a homemade system devised by Otremba. The three large drums are mounted in a rack. Refrigerant is transferred from the large drum through a refrigerated system into the service cylinders.

The service cylinders are weighed empty and stamped so that the exact amount of refrigerant remaining in the cylinder can be determined at any time, by weighing the cylinder.

For filling, a service cylinder is placed upon the scale and connected to the charging panel. All air in the cylinder is purged by releasing gas through a line running to the out-doors. To make sure that all air is expelled, a vacuum is pulled on the system.

Then the type of gas desired is let into the cylinder from a large storage drum simply by opening the proper valve, which is clearly labeled on the panel.

With the service cylinder resting on the scale, the operator can watch the pointer rise until the desired charge has passed into the cylinder. The valve is then closed and the cylinder put back in the truck.

Otremba said that before Sil-Fos-soldering copper refrigerant lines that have been exposed to the atmosphere, the men fill the lines with dry nitrogen to dispell all air and prevent formation of scale inside the pipe, caused by the 1,400° heat required.

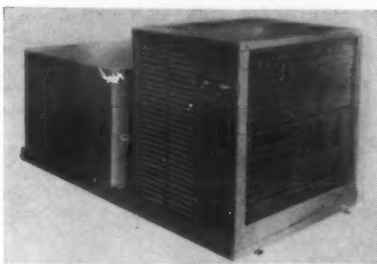
A new Mathes portable charging unit recently purchased is equipped with an efficient vacuum pump permitting a vacuum of 30 in. of mercury for thoroughly drying a system before charging.

The charging unit, mounted on a two-wheeled truck, can carry two large drums of refrigerant or one drum of refrigerant and one of nitrogen.

Since a unit of this size is not useable on a roof, the vacuum pump was removed and is used separately, or in conjunction with the charging unit.

The service department consists of six commercial men, five installation men, and two men in the shop.





SINGLE-UNIT "Frigipak" air conditioner.

## Armstrong Furnace Adds New Models to Air Conditioner Line

COLUMBUS, Ohio — Armstrong Furnace Co. announced that the newest additions to its 1957 air conditioning line, which includes water and air cooled units of 2, 3, and 5-ton capacity, are a split-system installation and "Frigipak," a single-unit air conditioner. Both are air cooled and come in models two and three.

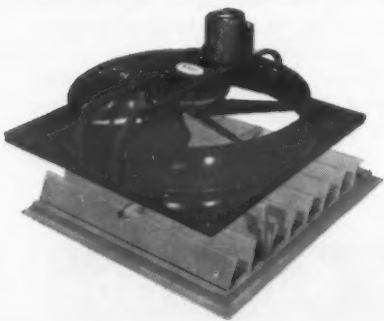
"In designing these new units, Armstrong engineers kept in mind the space problems that confront furnace installers," it was pointed out. "As a result, there is an air conditioner for every home."

"The split-system models are especially adapted for use in homes with a complete piping system. The condenser can be placed in the yard, breezeway, garage, on the roof, in the attic, or crawl space. The evaporator can be set above, behind, or below any warm air furnace, it was explained.

Frigipak, the single-unit air conditioner, is engineered for those homes that have little or no ductwork.

## Most Everywhere — Home Air Conditioning Needs Attic Ventilation

To get best efficiency at lowest cost, home air conditioning needs attic ventilation. Removes hot air blanket that works cooling system overtime. Air cools for night comfort.



Coolair is the low-cost fan to use.

Coolair Fans from 1,400 to 154,000 CFM for homes, schools and factories.

For information and prices send coupon below.

AMERICAN COOLAIR CORP.  
3610 G Mayflower St.  
Jacksonville 3, Fla.

Please send all information on Coolair Fans for attic ventilation.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

## 1½, 1¾-Hp. Split-System Home Units Claimed To Cool Up to 1,000 Sq. Ft.

CINCINNATI — Two new "Cool-Air" split-system air-cooled residential air conditioning units of 1½ and 1¾ hp. which are claimed to cool areas of up to 1,000 sq. ft. have been announced here by the Williamson Co.

In homes now equipped with a forced-air furnace and its ductwork, the Cool-Air duct cooling and dehumidifying coil can be installed in the duct or above the furnace, Williamson explained. The cooling coil is connected to the outdoor condensing unit, and cooled air is cleaned by the furnace filter.

In homes having no ducts, the company's fan-coil cooling unit may be installed with its own duct system, it was added. This can distribute air to either an

entire home or to a selected area, as can the other system also.

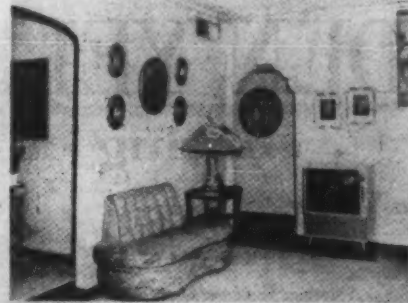
Priced to the homeowner from \$495 plus installation, and ductwork if necessary, the air conditioners are "high in both quality and performance," the firm says.

This series of units is supplemental to the "Wethermatic AIRrefrigeration" cooling unit line of 2, 2½, 3, 4, 5, and 7½-hp. capacities and Williamson warm air furnaces and prefabricated air distribution equipment, it was pointed out. The company produces a line of space cooling units claimed to have full tonnage capacities at 105° F. outdoor condensing air temperature, it was further explained.

## Residential Air Conditioning

### ANOTHER CENTRALLY AIR CONDITIONED HILL YORK HOME OF THE WEEK

The home of Mr. & Mrs. Max Wheeler . . . 2846 Altan Road, Miami Beach



Mr. and Mrs. Wheeler say, "We have continually recommended Hill York to our friends for the best in reliable air conditioning and feel that our money was well invested when we bought York central air conditioning."

No Down Payment! Long Term Financing!

For Your FREE Home Survey Call . . .

## HILL YORK

1235 S.W. 8th St.

PR 1-1411

PAN AMERICAN YORK  
1235 S.W. 8th Street  
PR 1-1411

*'I Like Central Air Conditioning Because . . .'*

A FLORIDA distributor offers the "Home of the Week" as a testimonial in advertising for central air conditioning. Homeowners are quoted as to how they like the firm and the air conditioners it distributes.

## Have you discovered why SERVICEMEN NOW PREFER

### Mortite CAULKING CORD and CAULKING GUM

for every Sealing Job?

Acceptance Proves It! From coast-to-coast refrigeration service and maintenance men have discovered two great MORTTELL products which give them price, convenience and quality advantages *unmatched* by any other compound on the market today. Now, sealing and caulking jobs are finished faster, better and at much less cost than ever before!

"Tool Kit" Size! Both Mortite Caulking Cord and Mortite Caulking Gum come in handy cylindrical containers—easily fit into any crowded tool box, large or small. These compact containers have been designed by working refrigeration servicemen to eliminate product waste resulting from flimsy, bulky packages.

#### THESE FACTS TELL THE DIFFERENCE!

**MORTITE CAULKING CORD**— $\frac{3}{16}$ " rope-like strands always retain the consistency of modeling clay. Non-staining, Mortite White in color—may be painted *immediately* after application. Three compact 8-strand 16-ft. rolls can be unwound one or more strands at a time without unwinding entire roll.

**MORTITE CAULKING GUM**—Provides the perfect answer for the serviceman who needs a bulk caulking compound to hand mould into beads, wads, gaskets, etc. One pound slug ( $2\frac{1}{2}$ " x 6") never cracks or hardens—adheres to any clean, dry surface through normal temperature ranges.



Mortite Caulking Cord or Mortite Caulking Gum will do the job better than your present caulking compound at a fraction of your present cost. Write today for complete information about these two products and the complete line of Mortite refrigeration products.

J.W. **Mortell** COMPANY

Makers of Famous Neoprene Tape and Mortite

J. W. MORTELL CO.  
525 South St., Kansas, Mo.

O.K! Send me full information about the complete line of Mortite refrigeration products.

I'm a \_\_\_\_\_ Jobber \_\_\_\_\_ Dealer  
\_\_\_\_\_ Serviceman

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Mail  
Coupon  
Today!



# They'll Do It Every Time

by  
Jimmy  
Hatlo



## How To Prepare A Catalog Which Will Interest Buyers

IS PREPARING and getting out a catalog a dreary, routine task that is tossed off to an unqualified subordinate who isn't busy at the moment? *Answer:* Yes, usually. Inasmuch as this is the season for catalog-preparation, let's study its technology. Wholesalers and small manufacturers alike are concerned with the catalog program right now.

Why does a catalog, in too many cases, receive the kind of attention your television set gets when the kids yawn and go to bed? *Answer:* it is written not from the prospect's needs, but from the viewpoint of the equipment designer.

Most catalogs describe how the product is built, or what makes it tick, rather than explaining what it can do for the ultimate buyer, or how it can be profitable for the purveyor. Moreover, finding out what most cataloged items can do for customers is as easy as playing pool with a rope for a cue. While the engineering viewpoint is valuable, engineering facts must be translated into user benefits.

**Additionally, a catalog should't lean** too heavily on the "hard sell" angle. That, in effect, would defeat its purpose—because a catalog peruser like to feel he is choosing for himself. Yet, by interpreting useful information to prospects, a decent selling job can be done.

Knowing what *they* want, you can angle information about your products to their needs. Applying your product to prospects' problems is your cue to catalog communication. To do that: Employ charts, exploded views, isometric drawings, photographs, and any other presentation method which makes visual understanding easier.

To a marked degree, a catalog can be a powerful tool in salesman's hands. It can supplement and back up the sales manual; and it can constitute the sales manual itself. Salesmen will use it in helping prospects write specifications, and in supplying detailed answers to questions which help close the order.

**Of course, a perennial problem** facing sales executives is that of getting salesmen to USE printed sales helps—like catalogs, direct mail pieces, and other ammunition. Sales promotion experts aver that wastage of printed promotion often is the fault of the designers of such stuff. So, please heed this advice:

Good catalog design has three objectives: it should make product information *easy* to (1) find, (2) read, (3) comprehend.

**Designers should help buyers** travel smoothly through miscellaneous information, identify whatever they need, and understand details readily. Catalog design should emphasize, indicate, separate, or combine information through the use of five basic elements: size, white space around illustrations, color, line, and shape. An especially important point for catalog writers to remember: once the catalog is opened for reading, it become a two-page spread, rather than a one-page deal.

How do you look at a phone directory? In the upper corners, right or left, for the first three key letters, then down columns for the names—according to the Polk people. That same principle of making it easy for readers to follow the line of least resistance makes for quick catalog reading.

People just haven't time to wade through lots of words when looking up a catalog item. The more you use graphic material, diagrams, cutaway views, etc., the better the visual reception, and the quicker the understanding of your printed material. Then, after you have designed your catalog to create buying interest on the part of the reader, don't forget to tell him how he can reach you (or your local dealer) to place his order!

**Herewith a few don'ts** in catalog designing:

Don't be rash in estimating cost: be liberal. Add 20% for emergencies and for contingencies, then another 33 1/3%—just so you won't be too surprised at the final bill.

Don't go off the deep end on newfangled design. Add new features each year—but retain old standbys to please the majority of people who resist change.

**Don't decide on organization** of material, general format, or standard page layouts, or spend money on any design work, until all the basic material is available.

Don't start printing until plate proofs are checked carefully. Errors still will be found at that late date.

Potent advice, gentlemen. Yours for the reading—and for better catalogs. Incidentally, it's useful information for preparers of advertising in the upcoming *Air Conditioning and Refrigeration Directory*.

Trade Mark  
reg. U.S. Pat.  
Office:  
Est. 1926

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

AIR CONDITIONING & REFRIGERATION **NEWS**

Copyright  
1957,  
Business News  
Publishing Co.

F. M. COCKRELL, Founder

### 'The Conscience of the Industry'

Published Every Monday by BUSINESS NEWS PUBLISHING CO., 450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924. Subscription Rates: U. S. and Possessions and Canada: \$6.00 per year; 2 years, \$9.00; 3 years, \$12.00. All other countries: \$10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents; 50 or more copies, 20 cents each. Send remittance with order.

EDITOR & PUBLISHER,  
George F. Taubeneck

EDITORIAL DIRECTOR,  
Phil B. Redeker

ASSOCIATE EDITOR,  
C. Dale Mericle

ASSISTANT EDITORS:  
John Sweet

Hugh Mahar

George Hanning

Robert Lacey

RESEARCH MGR., John MacLean

GEN. MGR., Warren Jones

GEN. PROD. MGR., Walter Schuler

ADV. PROD. MGR., A. M. Barrow

CIRCULATION MGR., Herbert Spencer

SUBSCRIPTION MGR., Rosalie Ashley

READER'S SERVICE MGR.,  
Vincine Mogyorodi

PRESIDENT, Edward L. Henderson

ADV. MGR., Robert M. Price

WESTERN ADV. MGR.,  
Allen Schildhammer

ASST. ADV. MGR., Joe Sullivan

ADVERTISING REPRESENTATIVES:  
Rex Smith

ADVERTISING OFFICES:

New York, 521 Fifth Ave.

Murray Hill 2-1928-9

Robert M. Price

Chicago, 134 S. LaSalle St.

Franklin 2-8093

Allen Schildhammer

Rex Smith

Detroit, 450 W. Fort St.

Woodward 2-0924

Joe Sullivan

Los Angeles, 4710 Crenshaw Blvd.

AXminster 2-9501

Justin Hannon

Member, Audit Bureau of Circulations. Member, Associated Business Publications.

VOLUME 81, No. 11, SERIAL No. 1,477, JULY 15, 1957

"God grant that not only the love of liberty but a thorough knowledge of the rights of man may pervade all the nations of the earth, so that philosopher may set his foot anywhere on its surface and say: 'This is my country.'"—Benjamin Franklin.



### SCORES COMMERCIAL EQUIPMENT 'FOOTBALLING'

Ragan Refrigeration Co.  
Charlotte, N. C.

Editor:

The article "Distributors to Seek Ice Cream Case Sales" in a recent issue is most encouraging. Dairies in this locality are "doing business as usual" despite any and all rulings to the contrary, and until such time as the Federal Trade Commission issues a cease and desist order, this situation will continue.

The Dairies are only a segment of this problem. What about the bottling companies, the wholesale grocers, the frozen foods companies, the theater supply houses, the chains and the parts jobbers? The topic for this problem should read

"Distributors Seek Refrigeration Equipment Sales." This "footballing" of commercial refrigeration equipment has put the industry on a very low level, not to mention what it has done to the distributors and the users.

Action on the part of the NCRSA and the Federal Trade Commission is long overdue. These illegitimate sales have grown to such proportions that it will take many years to overcome. Manufacturers are not helping the situation any by advertising in the trades papers of the various outlets.

Hope to be reading more about this matter in your very fine paper.

VIRGINIA CARPENTER

(More Letters on next page)

## Handy Way to Subscribe

### To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, heating, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the industry's newspaper for profit every week. Only \$6.00 per year, 52 issues (U.S. and Canada). Foreign: \$10.00 per year.

AIR CONDITIONING & REFRIGERATION NEWS 7-15-57  
450 W. Fort St., Detroit 26, Mich.

Send the NEWS every week for: ☐ One Year \$6. ☐ Three Years \$12.  
☐ Payment Enclosed ☐ Bill Me ☐ Bill Company

Name.....

Company.....

Street.....

City..... Zone..... State.....

IMPORTANT: Company's Type of Business.....





## WANTS TO DISTRIBUTE PRICE-CUTTING EDITORIAL

Amana Refrigeration, Inc.  
Amana, Iowa

Editor:

I am delighted with your editorial, "Antidotes for Price-Cutting." It is very well done, George... very timely, and certainly should be helpful.

If by chance you have 40 or 50 copies please send them here for distribution among our field force—with a suitable covering letter emphasizing the importance of readership of your newspaper. We cannot do too much of this type of thinking.

J. A. RISHEL, JR.,  
General Sales Manager

## 'PRICE LEADERSHIP' TERM OFFERED

Hotpoint Co.  
Chicago, Ill.

Editor:

I enjoyed reading your editorial on price cutting. Price cutting as you know, is pretty rampant today, and while we have always talked of salesmanship in the appliance industry and other industries, it seems almost a necessity that all manufacturers have what perhaps should be termed "price leadership."

It is becoming more apparent daily that the consumer is willing to pay for additional advantages and conveniences, which is clearly shown in the sales of automatic transmissions on automobiles, electric seats, and electric windows, and combination refrigerators which do not require defrosting.

I only hope that your editorial is not the lone voice in the wilderness, but I do have a feeling that at all levels of distribution there is a very keen consciousness that there must be a reversal to use value selling and corresponding decrease in price cutting and an increase in price leadership.

HOWARD J. SCAIFE

## EVERYONE HATED TO SEE PAUL REED GO

Harris Refrigeration Service  
Marion, Conn.

Editor:

Please accept my thanks for the apt and extremely professional epitaph to our mutual friend, Paul Reed. I so wanted to do something of this nature to publicly give thanks for having known this great guy and so profited from this friendship. He will forever live on in our hearts. Well done George!

May I also take time to heartily agree with the general consensus of opinion voiced in the same issue in "Reader Reactions"? It turned the key in the lock of my own business mainly for two reasons—1st, in spite of lower than normal service charges, the bulk of our customers were so slow in paying (or not paying at all) that the poor financial return kept me from paying my help an "honorable" wage at our own minimum "take." 2nd, It was too much extra work and expense being a bookkeeper and accountant for

the government. That ended that chapter, though it was cleanly done without a bankruptcy.

As for the present, the very thing mentioned in the letters of the "Reader Reactions"—lack of decent financial return in wages for the brain-wracking, physical and otherwise aggravating sacrifices it is necessary to cope with as an employee in the refrigeration field—it just isn't worth it. After going through the whole gamut since 1933, from sulphur dioxide fumes, to ammonia, to floods, to blizzards, to 3 days and 8 nights work without sleep at a time and a wage in the end far less than a carpenter or brick-layer received, it was too much to take.

None of the various service-manager jobs paid half enough to cover the effort and nervous tension drained from one's very soul. It got so bad that I couldn't tolerate a phone at home during one period. The final break came when I took a week off (without pay) to pitch in with our volunteer firemen and help the poor people of Waterbury try to recover from the awful flood. Our pay for this week was the satisfaction of being needed and wanted. They would have done the same for us. My distributor boss made such a fuss over my absence that I promptly resigned.

Though I still maintain my friendships and memberships in RSES and ASRE, for the most part only limited consultation work and even more limited construction and maintenance is taken in now.

In case you are still with me (thanks for the patience) please

accept my apology for rambling on. I very much enjoy the regular issues of A.C. & R. News. My first love will always be your "Inside Dope," for I've often read that lacking time for the rest of the fine paper. Your excellent humor has been manna for the soul when the going has been rough.

As an after thought, that last job I held as a service manager in Bridgeport, my little old faithful Ford Ranch Wagon covered over 62,000 miles mostly in the pint-sized State of Conn. but some in our Mass. territory. Since then it has clocked less than 18,000 more miles in nearly 2 years. What a relief!

Does Greg still collect post cards? He is probably in the whirlpool of things by now and too busy. Nice talking to you George though I'd rather in person.

LES HARRIS

## 'GOOD CALIBER' ARI LEADERSHIP

Air-Conditioning &  
Refrigeration Institute  
Washington, D. C.

Editor:

Again my grateful thanks to you for the wonderful support you are giving to our program. I am especially grateful for your mention of Matt Lawler, who did a wonderful job as President of ARI. We have been particularly fortunate in the caliber of men who have been elected as officers of ARI.

Of course, I should point out that contributions to the industry, made by men like Matt Lawler, are not limited to the one year they serve as President of ARI. They are continuously active as Board members, as other officers, or committee members, and here we find the real power behind this association.

GEO. S. JONES, JR.

# buy SPORLAN

PEAK PERFORMANCE  
**SOLENOID  
VALVES**



with the  
**POWER  
PACKED  
BLUE SEAL COIL!**

*because*

... it is layer wound with a cross woven insulating layer of cotton thread between each layer of magnet wire, thereby minimizing coil burn out.

**After Winding**... it is twice dipped in high temperature insulating and moisture repellent varnish and baked after each coating. Its final Blue Seal protective coat and bake assures a perfect moisture proof seal.

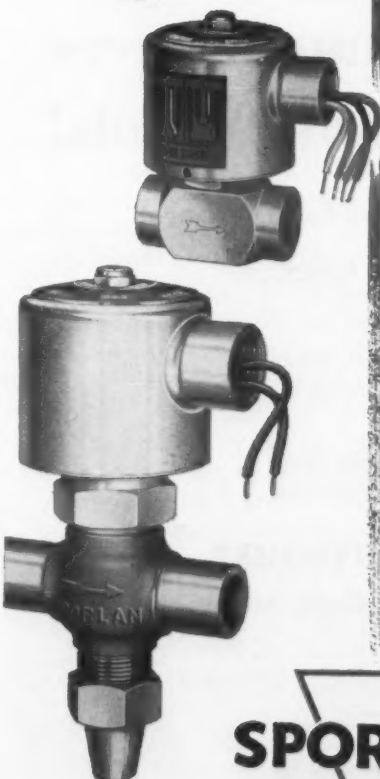
**Plus all these additional SPORLAN engineering features...**

Simplicity... few parts... sturdy take apart construction... floating type stem and plunger assembly... tight closing... internal parts precision machined. All large capacity pilot piston operated solenoid valves are equally applicable to Refrigerants 12, 22, and Carrene-7. Synthetic seating originally introduced by SPORLAN in 1947 has now been incorporated in the design of all pilot piston solenoid valves and in some direct connected models. 3 size Blue Seal Coils fit the complete line of SPORLAN Solenoid Valves thereby affording greater interchangeability of coils. Large capacity sweat type connection valves are assembled hand tight... saves valuable time in removing internal parts before installing valves in the system. A universal mounting bracket fits all valves.

**and Remember...** for Peak Performance on all installations

Buy SPORLAN Right Down the Line... Catch-Alls... Solenoid Valves...

Thermostatic Expansion Valves... and Refrigerant Distributors.



**SPORLAN VALVE COMPANY**



7525 SUSSEX AVENUE ST. LOUIS 17, MO.

EXPORT DEPT. AD. AURIEMA, 85 BROAD ST., NEW YORK 4, NEW YORK



## 'Confused Customer'

### Doesn't Know Where To Turn, Says Haas, Because Dealers Sell Price Not Room Conditioner Benefits, So Customer Pockets Dough

CHICAGO—An air conditioner dealer's biggest competition today is the personal savings account, Howard Haas, vice president of advertising and sales promotion for Mitchell Mfg. Co., told a special meeting of appliance salesmen.

At an outdoor "tent" meeting of 85 Polk Bros. salesmen in the parking lot at Polk City, Haas said: "A heavy discounting and 'was-is' price advertising in today's appliance market have left the customers confused."

The customer, Haas stated, gets one price in one store, a lower price in the next, and an offer to meet the lowest price in still another store. Pretty soon, he doesn't know where to turn,



MAKING a sales point, Howard Haas, vice president-advertising and sales promotion of Mitchell Mfg. Co., holds up the front of a "Roto-Cone" room air conditioner. At left is Frank Scire, Mitchell's chief engineer, standing behind a chassis of the firm's "Imperial" model.

and because dealers are selling salt his money away for a while price and not the benefits of a room air conditioner, he becomes confused and decides to

of this kind of selling is that all across the country personal savings accounts are on the upswing," Haas told Polk salesmen. "This has now become the dealer's biggest selling problem which results in his strongest competition."

One solution suggested is to "get back to the facts and inspire confidence instead of confusion."

"Tell the man in the family about the difference between room air conditioners and the other appliances you sell. Don't be afraid to get technical. Even if the customer doesn't understand, he will know that you know what you are talking about and this is worth a minimum of \$85 more on a trade-in sale and creates a buying frame of mind," it was explained.

By talking about the quality features of air conditioning instead of price, the salesman "is competing on a level that pure

price operators can't touch with 'burn-up' prices or 'was-is' ads—facts that are easy to compare and hard to alter," it was pointed out.

Haas used Mitchell's smoke and pinwheel demonstrations to illustrate to Polk's salesmen methods which dealers can use to sell features of room air conditioners to up-grade their prospects.

"We are optimistic about 1957 room air conditioner sales but realistic enough to know it will be extremely competitive," Haas said. "Because of this, we feel that it is important to help a dealer's sales personnel in training that gives them facts about our product," he further indicated.

J. W. Alsdorf, Mitchell president, recently predicted 2,250,000 sales for 1957, one of the most optimistic forecasts in the industry.

### Fla. Utility Opens 2nd 'Beat Heat' Promotion To Sell 10,000 Room Units

MIAMI, Fla. — The Florida Power & Light Co. has inaugurated its second "Beat the Heat" major promotional activity with and air conditioner sales goal of 10,000 units, it has been announced.

Total air conditioner unit sales for 1956 in the area of central and southern Florida served by FPL were 32,099. FPL estimated that the 1956 "Beat the Heat" campaign helped stimulate sales of over \$5 million in air conditioning alone.

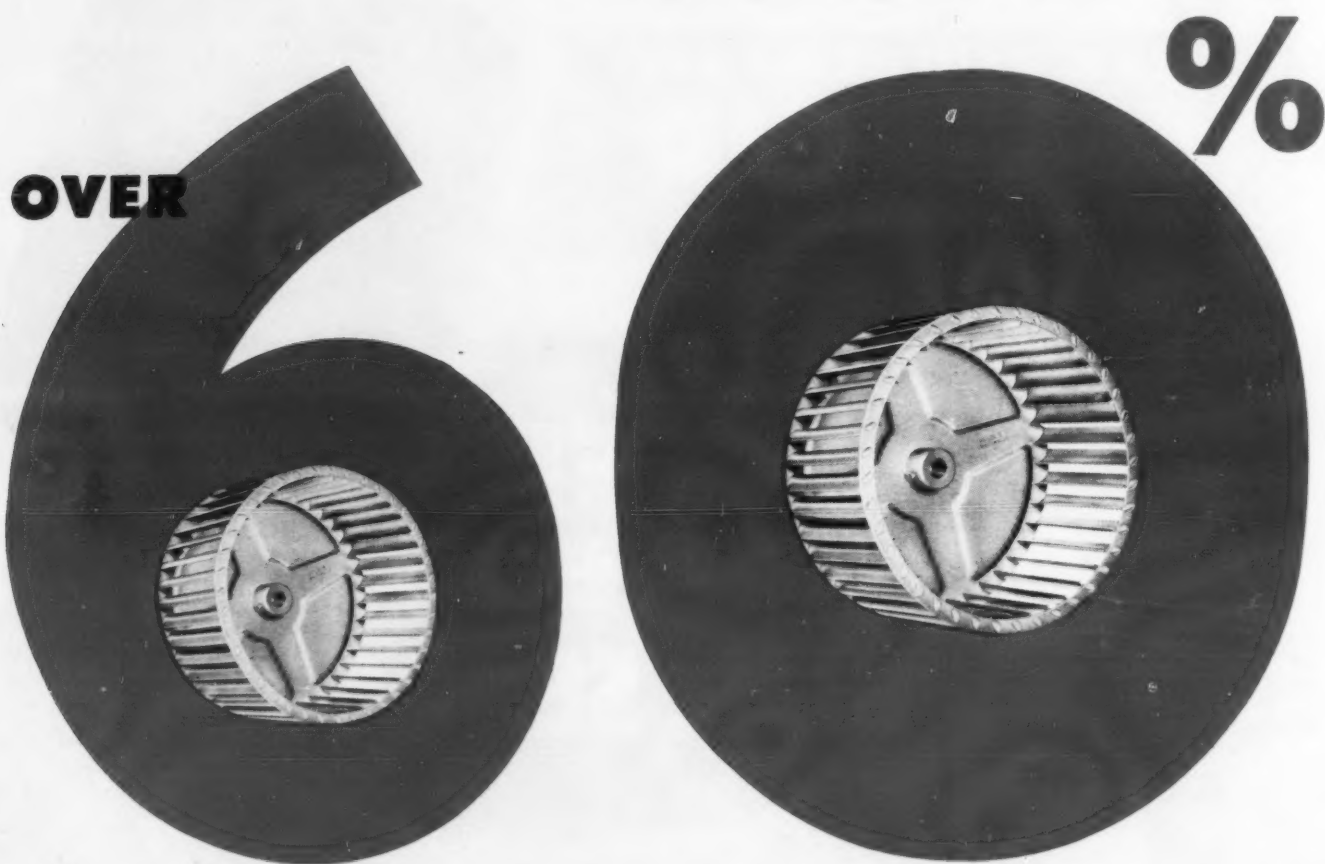
The largest February on record, saleswise, was reported by area dealers and wholesalers, with final tallies 50% above last February's figure. Showing exceptional dollar volume sales increases were air conditioners, 78%; refrigerators, 60%; ranges, 40%; and dryers, 20%.

Here, in part, is the unit sales report, comparing February, 1957 with February 1956:

	Feb. 1957	Feb. 1956
Air Conditioners	1,624	912
Refrigerators	5,411	3,372
Ranges	3,951	2,822
Dehumidifiers	11	5

### To Cool Federal Bldg.

OKLAHOMA CITY—New air conditioning and lighting is to be installed in the Federal building at an estimated cost of \$512,525. The contract to furnish equipment and do the work has been awarded to Hudgins, Thompson, Ball & Associates, architects and engineers here, it was stated.



## Of All Room Air Conditioner Manufacturers Use REVCOR BLASTAIRE Blower Wheels!

### Manufacturers of Blower Wheels With Tab Lock Blades for 11 Years!

BLASTAIRE BLOWER WHEELS OUTPERFORM OTHER BLOWER WHEELS...

- Provide more air and pressure in less space!
- Exclusive, individually attached, thin gauge, full width blades utilize the full width of the blades from tip-to-tip with no obstructions at the ends to cause air loss!
- Unique BLASTAIRE production methods result in lower costs while maintaining highest standards of strength, rigidity, balance and performance!

### LARGEST SELECTION OF SIZES AVAILABLE ANYWHERE

20 Diameters of Single and Double Inlet Wheels from 3" to 12 1/4". Single inlet widths from 1" to 6". Double inlet widths from 2" to 12 1/4"!

AVAILABLE—BLASTAIRE TECHNICAL DETAILS

ENGINEERS  
**Revcor**  
INC.  
MANUFACTURERS

251 EDWARDS STREET, CARPENTERSVILLE, ILL.

**MIGHTY MITE**  
MOTOR PROTECTORS

FOR  
MOTOR  
OVERLOAD  
PROTECTION

MECHANICAL INDUSTRIES  
PRODUCTION COMPANY  
223 ASH STREET • AKRON, OHIO



## Designed for Variable Needs, Air Conditioner Features Same Firm Emphasizes Self-Contained Casing, Blower, Warm Air, Return Air Ducts for Heating, Cooling Unit Installed for '\$5 a Week'

LEBANAN, Ind.—The "Modern Builder," a single heating-cooling unit that utilizes the same casing, blower, warm air, and return air ducts for both heating and cooling, has been announced by the Heating & Air Conditioning Div., Stewart-Warner Corp.

Specifically designed to meet the variable requirements of the building industry, the Modern Builder is flexible in its installation so as to offer comfort at less cost to both the builder and home buyer, the company said.

### MAY INSTALL COOLING ORIGINALLY, OR LATER

At the option of the builder or eventual homeowner, air conditioning may be installed as part of the original installation or at a later date—in either case, the installation is the same and no changes, extra boxes, cases, or ducts will be needed, it was pointed out.

Available in counterflow and vertical models, gas and oil fired, the Modern Builder requires a floor space of 22 by 27 in. and is designed to be installed with "zero" clearances on the sides, rear, and top and 6-in. clearance in front of the unit.

With heating capacities of 67,000 to 80,000 B.t.u. input and 2 and 3-hp. cooling capacities, the gas-fired vertical upflow and counterflow models are readily adaptable to natural, manufactured, liquid, or a mixture of natural and liquid gas fuels, the company explained.

### 2, 3-HP. CAPACITIES

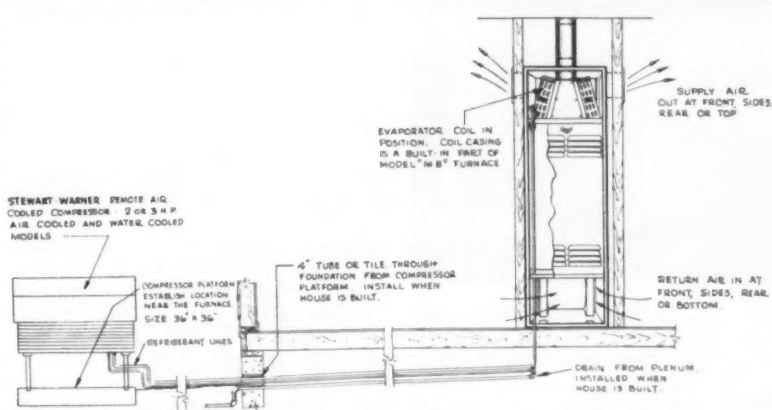
Heating capacities of the oil-fired units range to 67,000 B.t.u. input with 2 and 3-hp. cooling capacities.

A built-in plenum chamber is left vacant when installed as a heating unit only. The cooling coil may be inserted at anytime without changing or altering the original installation.

The condensing unit may be placed outside the living area and can be installed on the ground close to the house or suspended from the rafters of the carport, it was noted. Refrigerant lines run from the condensing unit to the evaporator coil within the installed unit removing vibration noises from the home.

### INCORPORATES WARM AIR PLENUM

These furnaces have the warm air plenum incorporated as an integral part of the furnace for direct stub duct attachment. They are suitable for any warm air delivery system at floor level for counterflow, either above the floor, under the floor, or a combination of both. For upflow, a combination of high side wall or ceiling registers may be used.



DESIGNED with the builder's heating and cooling problems in mind was this Stewart-Warner "Modern Builder" air conditioning unit which is claimed to take summer cooling out of the luxury class by using the same casing, blower, and warm air and return air systems.

The front of the unit is built-in, having a front relief fully cased with all controls opening with flue connections on concealed. The draft hood is top of the unit.

## MORE HORSEPOWER...

in an Economical, Compact, Lightweight, Quality Package



Designed for a Wide Variety of Applications...  
or can be Tailor-Made for Specific Requirements

Here is a motor designed and styled to meet the modern demands for motors that are smaller and lighter, and yet have increased output. It is ideal for heating, ventilating, air conditioning or refrigeration equipment, for appliance applications, and for business and vending machines, pumps, tape recorders, and dozens of other applications.

The basic AL-4 is a 4-pole motor, 1550 r.p.m., 115 volts, 60 cycles, available in odd voltages and frequencies. The normal horsepower range is 1/250th to 1/15th. It incorporates two famous Redmond design features that have never before been available in a small diameter motor:

1. The patented Redmond Tri-Flux® design that greatly increases starting and running torque and improves efficiency over conventional small diameter motors;
2. The Uni-Cast® construction that gives a rigid, lightweight motor that can be manufactured to extremely close tolerances.

Because with Uni-Cast construction the stator core frame is precision die cast in one piece, the registers are machined concentric to the bore to extremely close tolerances. The exact bearing alignment and uniformity of air gap achieved with this precision manufacturing result in a motor that is whisper-quiet in operation and can be depended on to give years of trouble-free service.

Casting the stator core frame in one piece not only makes the motor most rigid, but it is light in weight, as a very durable and lightweight metal is used.

This modern motor can save money on a host of applications. If you are looking for a motor in volume quantities, send for the literature described below.

The Standard of Dependability



THE BIG NAME IN SMALL MOTORS



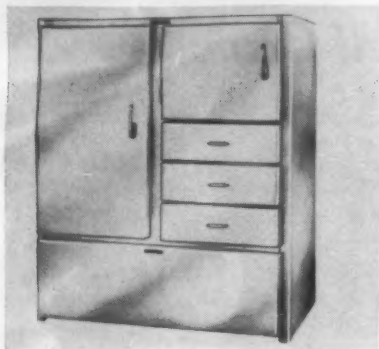
SEND FOR COMPLETE PERFORMANCE DATA

For the complete story on the new AL-4 motor—dimensions, performance, operational data, and suggested applications—write for the "AL-4 Bulletin."

ADVERTISED IN  
The Saturday Evening  
**POST**

**Amco**  
CONDENSATE PUMPS  
★ 20 FT. HEAD  
★ FLOAT CONTROL  
★ QUIET-HEAVY CONSTRUCTION  
★ PLUG IN PRE-WIRED  
**AMERICAN COMFORT MFG. CO.**  
2401 MAIN ST. EVANSTON, ILL.





## Refrigerator Offers Self-Closing Drawers

KEY NO. G-730

HUDSON, N. Y.—A new refrigerator featuring semi self-closing pull-out drawers has been announced by Foster Refrigerator Corp.

This new broiler refrigerator is designed for placement along side of a frying grille or heavy-duty range.

The broiler refrigerator is available in any reach-in refrigerator model, from 15 to 100 cu. ft.

## Multi-Room Year-Round Unit Uses Little Space

KEY NO. G-731

NEW YORK CITY—A new, slender-design air conditioning unit for apartments, hotels, schools, or any commercial installation has been offered by the Plumbing & Heating Div., American-Standard.

"Vertical Remotaire" unit provides efficient year-round comfort in the least amount of usable space, it was stated. All four sizes have the same 9-in. depth and a height of 25 in.

Unit is designed for use in a centrally-located hot-water-heating and chiller-cooling system. Individual unit controls are available in a variety of arrangements, in complete packages, for either field installation or factory assembly.

A plate-fin coil is slant mounted to assure proper condensate drain-

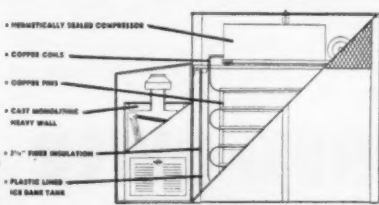


age. The coil is designed for 200 p.s.i. maximum working pressure. A glass fiber replacement filter is furnished as standard equipment and is removed without taking off the front panel.

## 'Thermotrol' Operates on Ice Bank Storage

KEY NO. G-732

CINCINNATI—Double the B.t.u. of air conditioning from the same size compressor is the claim made for the "Thermotrol," package home air conditioner made by



Russell R. Gannon Co., Inc.

Operating on the ice bank storage principal for cooling and the company's "Raypak" boiler for heating, the Thermotrol is designed to be installed outdoors.

According to the Gannon company, the 1½ hp., "3 ton equivalent" unit generates 200,000 B.t.u. in ice bank storage, making available 36,680 B.t.u./hr. for a 9-hour peak demand.

This figure is the sum of 22,080 B.t.u./hr. from the ice bank and 14,600 B.t.u./hr. capacity.

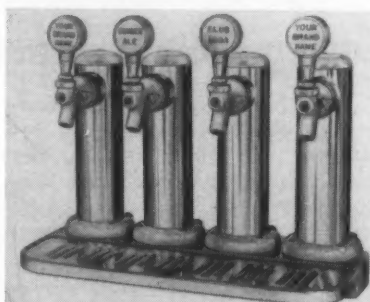
## Develops Pre-Mix Dispensing Draft Arms

KEY NO. G-733

MINNEAPOLIS — "Deluxe" draft arms are designed by the Cornelius Co. for pre-mix dispensing. One, two, three, or four-flavor models are available in either manual or self-closing models.

Cornelius stressed appearance and trim design as well as performance. The standards and mounting base have a highly polished, chrome finish. Domes and flanges are made of high luster, scratch resistant melamine in colors to match the dispensing valves. Removable drip tray is stainless steel.

Slender standards permit the operator to see and serve customers without difficulty. In addition, this "see through" feature doesn't block the customer's view.



The three-flavor model occupies an area less than a foot wide and 8½ in. deep. If desired, the draft arm only (without mounting base and drip tray) may be installed and this model is only 3½ in. in diameter. All Cornelius draft arms may be used with ice or mechanical refrigeration systems.

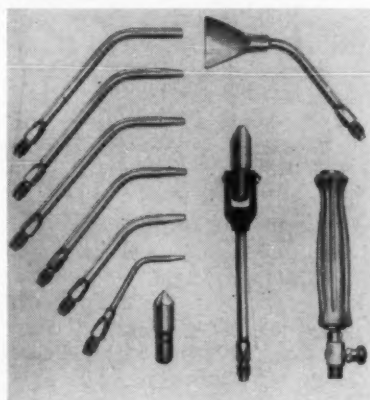
## All-Brass Portable Torch Has Nine Tips

KEY NO. G-734

CINCINNATI — Versatility is featured in the Huber model "A" soldering and brazing torch, a portable tool with "almost limitless uses." This all-brass torch with form-fitting wooden handle is manufactured by Huber Industries, Inc.

Ready to connect to an acetylene line, the model A has nine different tips, which produce everything from a very fine flame to a broad burner for speedy, economical removal of paint, softening of asphalt tile, etc. The unit may be fitted with a soldering iron tip.

Torch is made entirely of Revere steel conical valve stem and the brass, except for the stainless form-fitting wooden handle.



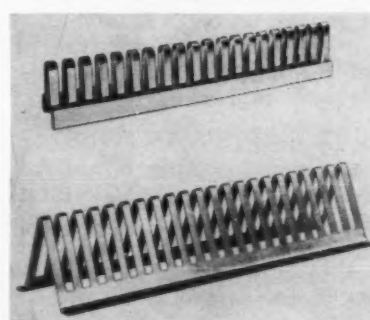
## Offers Stainless Steel Racks with Humidifiers

KEY NO. G-735

MILFORD, Mich. — Stainless steel racks are now standard on all its automatic humidifiers, Skuttle Mfg. Co. announced.

Use of stainless steel is said to assure longer life of components, increase resistance to damage of corrosion and rust, and make the units easier to keep clean, the firm said.

At no increase in price stainless steel will also be used for other component parts.



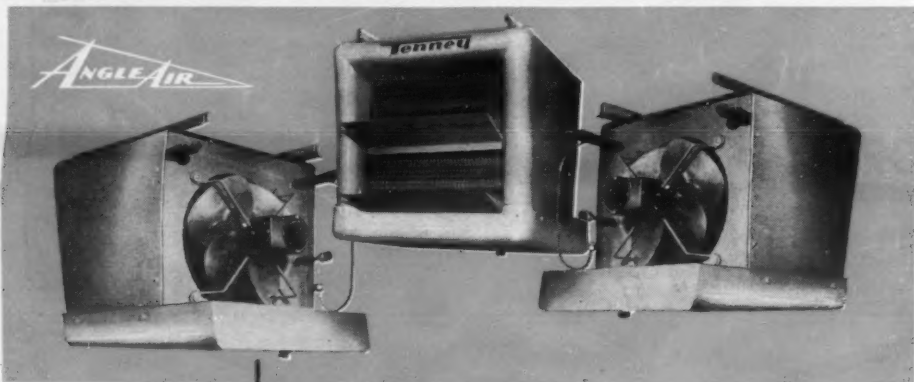
# TEMKON

Air Conditioning and Refrigeration

## TEMPERATURE LIMITED

Burlington Road, London, SW6. Cables: Temtur, London

Largest Producer of Air Conditioning Units outside the U.S.A.



For top performance and increased profits specify and install new Tenney ANGLE-AIR unit coolers! Want complete information ... write for bulletin 109-55 — today!

## THE MOST REVOLUTIONARY COOLING UNIT DESIGN SINCE 670 A. D.

Not since a clever Japanese invented the split bamboo fan 1,285 years ago, has such a wholly new concept of efficient cooling appeared ... the Tenney ANGLE-AIR unit coolers, open a completely new era in refrigeration equipment design. Incorporated in these outstanding new units is the most significant combination of easy-to-install and easy-to-service features yet developed ... the smooth ultra-modern appearance will sell you and your customers on sight ... easily mounted with the simple as A-B-C Tenney "three step installation" technique ...

- suction line provision for simple expansion valve bulb location
- integral heat exchanger
- sensitive aluminum Facetized† fins mechanically bonded on electro-tin-plated copper tube
- adjustable air louvers
- vibration mounted motor for quiet operation

... a wide range of capacities: 4,000-40,000 B.T.U.—"Engineered" for every refrigeration job.

### EASY "THREE STEP INSTALLATION"



**Tenney**  
ENGINEERING, INC.  
1076 SPRINGFIELD ROAD, UNION, N. J.  
Plants: Union, N. J. and Baltimore, Md.  
Engineers and Manufacturers of Refrigeration and Environmental Equipment

## Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

### Products Advertised

(list name, page, and issue date)

.....  
.....  
.....  
.....

### What's New or Current Literature Available

Key No. ....	Key No. ....
Key No. ....	Key No. ....
Key No. ....	Key No. ....
Key No. ....	Key No. ....
Key No. ....	Key No. ....

Name ..... Title .....  
(Please Print)

Company .....

Street .....

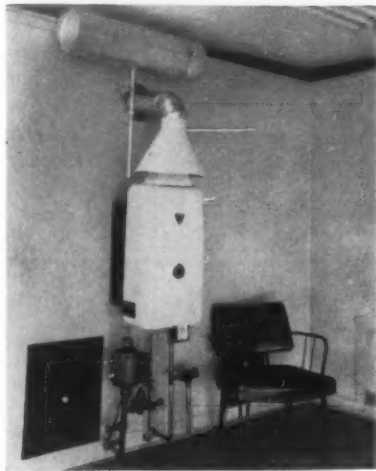
City..... Zone..... State.....

Type of Business .....

MAIL THIS FORM TO  
**AIR CONDITIONING & REFRIGERATION NEWS**  
Readers Service Dept.  
450 W. FORT ST. DETROIT 26, MICHIGAN



## Hot Water Heating System Can Be Hung on Wall



—KEY NO. G-736—

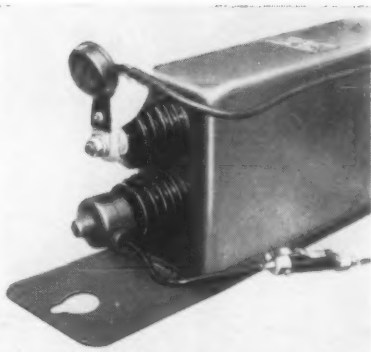
DETROIT—A "new concept" in home heating systems, eliminating lost floor space and providing economical and comfortable heating, has been introduced here by Bon-Aire Corp.

Based on an English-made boiler of high output and recovery, the Bon-Aire hot water heating system can be hung from a wall or ceiling or tucked out of the way in a closet or the utility room-kitchens of smaller homes, the firm said.

Hot water is piped through small polished copper tubing to radiators which are installed in a wall, using no floor space. "Therm-O-Rad" radiators are equipped with fans to spread heat throughout a room by convection, it was explained.

Heat may be controlled by one thermostat and the sensitive control on each concealed radiator or zone or individual room thermostats may be installed. With this system the company claims to be able to balance heat throughout the house within 2°.

From a cold boiler, the Ascot burner can provide peak heat at the radiators within 30 seconds, it was stated. Boiler operates on either utility gas or the bottled variety.



## Adds 2-Step Increment Starting to Motors

—KEY NO. G-738—

SCHENECTADY, N. Y.—A new method of two-step increment starting for induction motors which provides reduced light flicker and quieter motor operation during acceleration was recently developed by the General Electric Co.

Chief application of the new starting method is expected to be

in major buildings and other locations where power companies require large induction motors to be started with reduced KVA inrush, it was explained. Typical uses are for air conditioning and refrigeration compressors, fans, pumps, and blowers.

Called a two thirds part-winding starter the new system is claimed to accelerate most loads to full speed on part winding. This eliminates second increment of current inrush. Starter is easily connected to conventional one half part-winding starting as well as two thirds. Reconnection of leads of standard 208-220/440 v. motor to the new control is only thing necessary, according to the firm.

Designated CR7050, the starter is available in ratings to 400 hp., 600 v. Its four two-pole arrangement consists of two contactors and a pneumatic time-delay contact. One contactor has four poles, the other two, the company said. Each is selected for half the horsepower rating involved. Time-delay contact, located on the four-pole contactor, provides the interval from start to run.



## Big Bin Automatic Cubers Announced

—KEY NO. G-739—

ERIE, Pa.—A variety of big bin automatic ice cubers has been announced by Uniflow Mfg. Co.

One unit produces 200 lbs., stores 400 lbs.; another produces 400 lbs., stores 400 lbs.; still a third produces 600 lbs., stores 400 lbs.



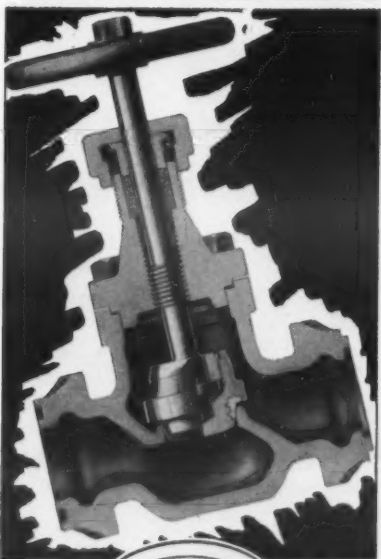
## Improves Welding, Cutting Outfit

—KEY NO. G-737—

NEW YORK CITY—An improved model of "Prest-O-Lite" No. 420 welding and cutting outfit capable of welding up to 1/2 in. and cutting up to 2 in. has been introduced by Linde Co., Div. of Union Carbide Corp.

The cutting oxygen lever has been moved to the top of the handle where it can be turned on or off with the thumb. A green plastic ring has been placed around the oxygen valve and a red ring around the acetylene valve for quicker and more positive identification.

Plastic gauge crystals for oxygen and acetylene regulators, furnished with the outfit, have been replaced by non-clouding glass kept in place with a screw-type retaining ring.



## Valves & Fittings

Bring you a dozen design advantages, plus experience since 1882, stock points in principal cities, and competent engineering assistance. Ask for new catalog: write



## FANCY-FREE FAN: \*IM-pak

IM-pak CHANGES TO ANY OF 4 POSITIONS—WHILE IN PRODUCTION! "Fancy-Free" is the word for Utility's new IM-pak Blower with Interchangeable Mounting—but it's fancy-free in a way you'll like! IM-pak's complete flexibility gives you an across-the-board stock that covers up to 98% of blower applications for residential air-moving equipment. The key is the Interchangeable Mounting. The two housing supports and motor mount bracket are shipped unattached to the unit, but with all hardware needed for rapid installation. Simply adjust the angle of discharge to any of four positions, and quick as a wink, the job is done. No oil cup problems, due to IM-Pak's sealed ball bearings; and the blowers are also available with a specially designed interchangeable sleeve bearing mount which is easily adjustable and permits time-saving production-line switches. IM-pak is sufficiently fancy-free to adapt to your manufacturing needs—without top-heavy inventories of blowers or many unassembled parts. Of course it has all of Utility's famed quality engineering built right in...quality that complements the excellence of your own equipment. Proof again that—YOU CAN'T MATCH UTILITY FOR PRODUCT AND PRICE!



\*INTERCHANGEABLE MOUNTING

A Division of Utility Appliance Corp.

## UTILITY FAN CORP.

911 East 59th Street, Los Angeles 1, California

MANUFACTURERS OF HEAVY AND STANDARD DUTY BLOWERS FOR HEATING, AIR CONDITIONING AND VENTILATING INSTALLATIONS. PRODUCERS OF BLOWERS AND BLOWER PARTS FOR ORIGINAL EQUIPMENT MANUFACTURERS. WRITE FOR CATALOGUE DATA.





## Cooling Towers Have Built-In Beams

—KEY NO. G-7310—

KANSAS CITY, Mo.—A new type of construction in cooling towers which features built-in cross beams has been introduced by Havens Cooling Towers Div., Havens Structural Steel Co.

Built-in beams which are heavy-duty 3-in. channels (4.1 lbs. per foot) eliminate need for any additional supports except concrete or steel beams running the length of the towers on the outside edges of the 80 to 200-ton "Verti-Flow" units.

## Introduces Tiny Solenoid Valve

—KEY NO. G-7311—

GLENDAL, Calif.—A new midget size solenoid valve designed especially for the low-price field has been introduced by General Controls Co. here.



The new shutoff valve, known as K-27H, is  $\frac{3}{8}$  in. high and  $\frac{1}{8}$  in. in diameter. It is available in  $\frac{1}{8}$  in.

ips, is normally closed and features a spring-loaded plunger with soft seat for bubble-tight shutoff, brass bar stock body, and two-wire continuous duty solenoid.

K-27H is suitable for use with all common industrial fluids including water, oil, gas, and air at operating pressures up to 130 p.s.i. Aimed at the automatic equipment manufacturing market this new valve finds uses in gas or liquid flow control in vendors and food or beverage processing equipment.



## Portable Elevator Handles Appliances

—KEY NO. G-7312—

CHICAGO—Appliance handling is claimed to be a one man job with a portable elevator to permit faster, safer handling. Manufactured by Grand Specialties Co., this highly maneuverable "Lift

Stacker" has a 750-lb. load capacity.

The four-speed hydraulic lift system can be either manually or battery controlled for maximum ease of operation. The 750-lb. battery operated model has a maximum lift height of 78 in. Other features include spark-proof "Texite" wheels and casters, a 24 by 22-in. platform, an over-all height of 91 in., and weight of 287 lbs. Other models have lifting capacities up to 3,000 lbs.



## Designs Circular Coil Condensers

—KEY NO. G-7314—

LA CROSSE, Wis.—A new line of circular coil air-cooled condensers designed for maximum heat transfer efficiency has just been announced by the Trane Co. here.

New dry-type condensers use no water or sprays to condense refrigerant. Only outside air induced through the unit's circular coil is used for condensing purposes.

Designed for installation out-of-doors for remote connection to the air conditioning unit inside, units are available in three standard sizes. They are used singly with 3, 5, and 7½-hp. package air conditioners, and in multiple combinations with larger horsepower conditioner equipment.

Every inch of heat transfer surface in the circular coil is exposed to air movement over a complete 360° range, allowing for installation flexibility without regard to wind direction.

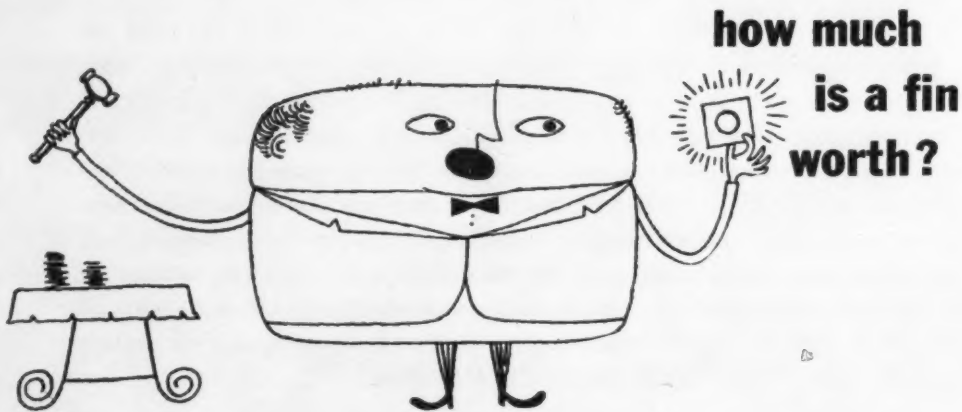
## Mounting Pads Reduce Noise

—KEY NO. G-7313—

CORONA, N. Y.—A solution to the problems of industrial din and vibration has been announced by Vibration Mountings, Inc.

Newly developed "Shear-Flex" mounting pads effectively reduce the noise and isolate the vibration transmitted from all types of industrial machinery, office, and air conditioning equipment, the firm claims.

Shear-Flex is an 18-in. square by  $\frac{3}{8}$ -in. thick oil-resistant neoprene sheet with a cross-ribbed structure that offers excellent deflection throughout the full load range of 5 to 70 lbs. p.s.i. Light loads ride on the high ribs. Heavy loads are supported by the entire ribbed surface.



Anyone who thinks that aluminum fin stock is nothing to get excited about has another think coming. At any rate, he has never been exposed to our aluminum fin stock which is not only superior in quality, but also lower in price!

A heady statement, this, and lest we be accused of throwing about wild and reckless claims, we have marshalled the facts to back us up.

We import this superior aluminum fin stock from one of the great rollers of light gauge strip in Western Germany—a mill with an enormous backlog of experience. The aluminum itself is Alloy 1100 and the stock is rolled out with such precision that tolerances are half again as close as standard commercial tolerances. Yet, you pay no premium for this extra precision. You can have these coils in widths up to 24 inches and thicknesses from .006" to .012". The carefully controlled finish is ideally suited for stamping condenser coil fins, vent pipe and fittings, and the like.

All this certainly spells out a superior product, but we promised you heaven too. And you get it—in the shape of price savings as high as 10%! Ask for our quotations and see.

For much the same reasons, you will also be interested in our precision drawn copper tubing, which we supply in special tempers suitable for hydraulic and mechanical expansion. And in our mandrel-wire drawn capillary tubing of extremely close dimensional tolerances for use where controlled pressure drops are required. Here again, the superiority of the product is matched by the dollar savings—this time a fat 10% to 15%!

If all this sounds too good to be true, we can assure you that over the past 8 years many American firms have found that it is true—to the great delight of their presidents, engineers and treasurers.

Samples, complete specifications and quotations are as close as your phone. Delivery is quick and dependable. Why not call or write us today?

*We make it our business to search out new and unusual products made only abroad. Many leading American plants are already volume users of: LURIUM®, a 99.99% high purity aluminum alloy; ANO-COIL®, color anodized aluminum strip in coils; seamless stainless steel bellows; precision drawn tubing. Interested?*

## FROMSON ORBAN COMPANY, INC.

255 Madison Ave., New York 16, N. Y., MUrray Hill 7-0920

Remco Super-Flo Filter-Driers on the mass silver brazing line.



## How much quality can you build into a Filter-Drier?

When manufacturers talk about filter-drier quality, fair questions are "What is it, and how did it get there?"

With the Remco Super-Flo, quality is (1) massive depth filtering to remove foreign particles, (2) peak drying efficiencies even at 150° F liquid line temperatures, (3) acid control, and (4) no measurable pressure drop.

The quality got there through mass manufacturing procedures which also dropped Super-Flo prices to the lowest in the industry.

Proof? More than 100 manufacturers in your industry specify Super-Flo Filter-Driers as original equipment. If you want the full story, write for prices and Bulletin R-11.

AVAILABLE TO THE TRADE  
THRU WHOLESALERS  
EVERYWHERE

**REMCO INC.**  
ZELIENOPLE, PA.



## NARGUS Counsel Advises

## 'Press for Equality of Opportunity Law To Ban Price Discrimination When Probable Effect Is Less Competition'

CHICAGO — "Events during the past year indicate clearly that Federal regulation over unfair and discriminatory practices in the food distribution industry is breaking down almost completely," declares Henry J. Bison, Jr.

Bison is associate general counsel for the National Retail Grocers of the United States.

Speaking at the 58th annual convention of the association here recently, he reviewed the competitive picture in the food industry and outlined remedies the grocers are seeking to unfair discrimination, efforts by chains to get out from under the Robinson-Patman Act, anxiety over possible retail competition by meat packers, and mergers caused by tax problems.

"Enforcement as well as observance of the Robinson-Patman Act have not disappeared entirely, but neither comes near the level of action required to meet the growing crisis in the industry," Bison asserted.

### 'ROBINSON-PATMAN ACT WILL BE LIFELESS RELIC'

"Another year of the present trend will render the Robinson-Patman Act a lifeless relic of the past in the food distribution industry," he warned.

NARGUS, he said, is determined to press for passage of the "Equality of Opportunity" bill in the Senate this year, feeling fairly sure that it will pass the House easily.

This bill, S. 11, proposes to tighten the law prohibiting price discrimination when its probable effect is substantially to lessen competition or tend to create a monopoly in any line of commerce, he explained.

### HITS FTC RULING ON FOOD FAIR CASE

Bison hit at a ruling by a Federal Trade Commission hearing examiner that a complaint against Food Fair Stores of Philadelphia be dismissed be-

cause it owned a packing plant and therefore the FTC has no jurisdiction over it.

The FTC has not ruled on this matter yet and a decision is not expected until late summer or early fall, he said. However, he added, "I can find no one in Washington who is convinced that the commission will do otherwise than hold for dismissal of the case. . . .

### 'MEANS ANY FOOD FIRM CAN ESCAPE FTC CONTROL'

"In practical effect this means that any firm in the food industry, no matter what its principal activity is, can escape from control by the FTC and be exempt from the Robinson-Patman Act by owning at least a 20% control of a packing plant or by becoming a live poultry dealer.

"Fourteen chains operating over 10,000 retail stores now own or control meat packing facilities. If, as is expected, the FTC dismisses its case against Food Fair, these retail operations will definitely be outside the scope of the Robinson-Patman Act and the FTC."

What these can do, others can.

"And even those who do not take this course have a strong legal argument that the commission cannot constitutionally attempt to regulate them when their competitors are outside its control," he reasoned.

Those who have or acquire packing plants would come under the jurisdiction of the Packers and Stockyards Act, which is administered by the Department of Agriculture.

What difference will that make?

"The answer to this," Bison asserted, "is that since 1921 when the act was enacted, the Secretary of Agriculture has paid little attention to enforcement of its provisions prohibiting unfair and discriminatory acts and practices.

Bison also noted that three

packers are currently attempting to remove restrictions in a 1920 consent decree that prohibits them from manufacturing or distributing 140 food and non-food items, owning and operating retail meat markets, and dealing in fresh milk and cream.

They want these restrictions removed to give them freedom to enter into the manufacturing and distribution areas of the food industry now closed to them, he said.

### OPPOSE MODIFICATION OF PACKERS CONSENT DECREE

"NARGUS has taken a position vigorously opposed to any modification of the packers consent decree which will permit any of the defendant packers to own, operate, or conduct any

retail food store in the United States," he asserted.

"The packers . . . would relieve a great amount of anxiety and relax tensions in the industry as well as strengthen their case, by amending their petition to strike the request for permission to operate supermarkets."

The merger movement in the retail food distribution industry has not yet reached its peak and is a source of great concern, Bison declared.

"In the last two years, approximately 2,000 locally operated food stores have been acquired by large interstate concerns. A continuation of this trend cannot but raise serious fears for the future of competitive enterprise in the industry. The road to monopoly follows the merger route.

"There are two ways to meet this problem. One is to restrain harmful mergers by law. The other is to change the present climate so that small and medium-size local operators will

not feel it necessary or advisable to sell out.

### 'BURDENSOME TAXES'

"Among the basic causes for the large number of mergers in this industry is certainly the burdensome tax load now carried by independent food store operators and the great difficulties they face in acquiring capital for expansion.

To help remedy this situation, NARGUS is supporting a bill—HR 5735—now before the House Ways and Means Committee. This bill calls for a deduction from net taxable income up to a maximum of 20%, or \$30,000, whichever is less, provided the taxpayer reinvests the amount in his business, either through additional investment in depreciable assets or inventory.

It also provides for paying the estate tax over a 10-year period and the opportunity to purchase tax anticipation certificates with which the tax could be paid.

## MORE FOR YOUR CUSTOMER'S MONEY and A FULL MARK-UP FOR YOU WHEN YOU SELL—

**Gloekler**



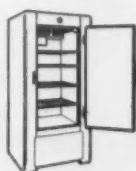
Gloekler Walk-In Cooler  
Steel Clad Add-to  
Construction

As a pioneer designer and builder of commercial refrigerators with more than 50 years of experience, Gloekler offers these important advantages:

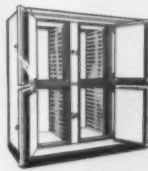
- Your customers get not only the finest in construction materials and design, but the all-important benefits the industry's most advanced skills and facilities can offer.
- Competitive pricing.
- Written warranty of efficient performance.
- As a Gloekler dealer you are protected on every transaction in your area, and get conscientious factory cooperation in maintaining good customer relations.
- Additional profit through sale of add-on features.

Yes, there's more for your customers and more for you in every Gloekler unit you sell.

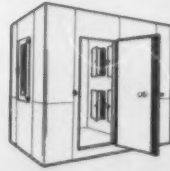
## STANDARD AND CUSTOM DESIGNS FOR EVERY COMMERCIAL AND INSTITUTIONAL USE!



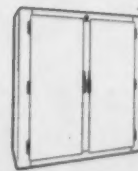
Reach-In



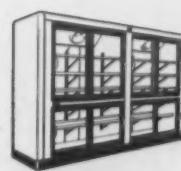
Bakery Freezer



Display Walk-In



Remote Reach-In



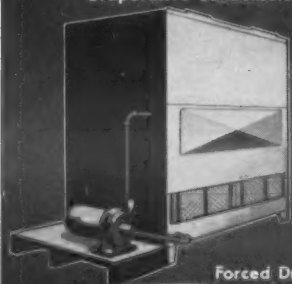
Wall Case

**Gloekler**  
P.O. Box 1154-AC  
ERIE, PA.

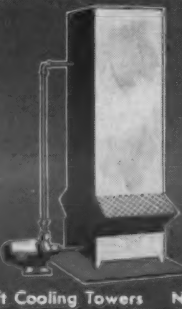
A FAMOUS NAME IN COMMERCIAL REFRIGERATION FOR OVER 50 YEARS

## NAME YOUR AIR CONDITIONING JOB!

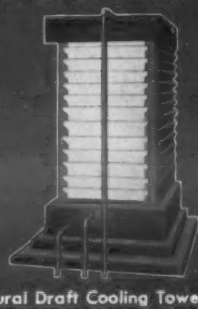
Evaporative Condensers



Forced Draft Cooling Towers

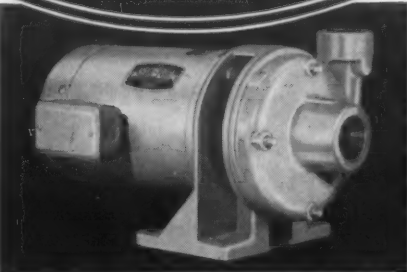


Natural Draft Cooling Towers



**STA-RITE**

**PUMPS** install easily  
cost less!



It's faster, easier, less expensive to install Sta-Rite Type AC pumps. These pumps are small, easy-to-handle. Because you can rotate the discharge outlet; there are no "fitting-in" headaches. Install—and forget service worries, too. Why? Bronze impellers; full-power motors; leak-proof seal. Best of all try this one for price.

STA-RITE PRODUCTS, INC.  
702 S. Eighth St., Delavan, Wisconsin  
Los Angeles, Calif. • Chamblee, Ga.

Ask your wholesaler. And write for copy of new bulletin describing Sta-Rite Air Conditioning Pumps.



IN CANADA: STA-RITE PUMPS (CANADA) LTD., AJAX, ONTARIO



## They Won't Be Home (Plant Vacation Schedule)

September 1, or earlier

This list, designed to save salesmen useless calls and to help purchasing departments in keeping adequate stock on hand, continues the series of vacation schedules. CLIP and SAVE. This list will not be repeated.

Company	Shutdown		Shipments From Plant
	Plant	Office	
Addison Products Co. ....	8/19-9/3	None	Emergency
Automatic Switch Co. ....	7/14-7/28	None	Emergency
Bohn Aluminum & Brass Corp., Betz Div., Danville, Ill. ....	8/19-9/2	8/19-9/2	Emergency
Plant 13, Adrian, Mich. ....	8/19-9/2	8/19-9/2	None*
Brunner Co. ....	8/19-8/25	8/19-8/25	Emergency
Chelsea Products, Inc. ....	8/19-9/8	None	Stock Only
Coolstream Corp. ....	8/17-9/2	None	Stock Only
Day & Night Mfg. Co. ....	8/19-9/5†	8/19-9/5†	None†
Dunham-Bush, Inc. ....	8/17-9/2	8/17-9/2	Emergency
Ebeo Mfg. Co. ....	8/16-9/3	8/16-9/3	Emergency
Haverly Equipment Div., John Wood Co. ....	8/11-8/17	8/11-8/17	Stock Only
Heat-X, Inc. ....	8/17-9/2	8/17-9/2	Stock Only
Hermidiff Co. ....	8/26-9/7	None	Stock Only
Kramer Trenton Co. ....	8/19-9/2	8/19-9/2	Stock Only
La Crosse Cooler Co. ....	8/18-9/2	8/18-9/2	Emergency
Lehigh Mfg. Co., Div., Lehigh, Inc. ....	8/26-9/2	8/26-9/2	Emergency
McIntire Co. ....	8/18-8/25	8/18-8/25	.....
Morrison Products, Inc. ....	8/16-9/3	8/16-9/3	None
Palmer Mfg. Corp. ....	8/25-8/31	8/25-8/31	Emergency
Refrigeration Appliances, Inc. ....	8/19-9/3	8/19-9/3	Stock Only
Schnabel Co. ....	7/29-8/3	7/29-8/3	Emergency
Steel City Mfg. Co. ....	8/26-9/3	8/26-9/3	Stock Only
Typhoon Air Conditioning Div., Hupp Corp. ....	8/19-9/2	None	Regular
Servel, Inc. ....	8/18-8/31	8/18-8/31	Stock Only
York Corp., Commercial Div. ....	8/19-8/25	8/19-8/25	Emergency

\*Shipments from Plant 7, Danville, Ill., only.

†Moving to new location: 855 Anaheim-Puente Rd., Puente, Calif.

### Stewart Mfg. To Move from N. J. to Kinston, N. C.

KINSTON, N. C.—Stewart president, said the new plant Mfg. Co., Cedar Grove, N. J., will employ about 65 people which manufactures air conditioning registers and grilles, when it gets into full operation at Kinston within a few weeks. He added that the company plans to move its entire operations to Kinston, it is learned. will occupy a building containing approximately 19,000 sq. ft.

## Contaminants In Refrigeration Systems-1

Excessive Motor Temperatures May Produce Breakdown  
Resulting In Moisture, Acetic Acid, Acetone, Tars

MIAMI BEACH, Fla.—There's quite a few different factors that play a part in fouling up a refrigeration system—moisture, certain materials used in motors, oil decomposition, and foreign materials in the system.

And today, because of new condensing unit designs, modern refrigerants, and problems in electric power supply, a new "villain" has come into prominence, known as "overheating." There is some evidence that its importance, in the way it accelerates the bad effects of the other factors, hasn't been properly realized.

That was one of the major points brought out in the "Contaminants" conference held during the annual ASRE convention here.

### 'Motors Running Too Hot'

"The motors are running too hot," declared H. M. Elsey, chemical consultant, who discussed "Certain Chemical Aspects of Contaminants." There are many reasons for this overheating he said, among them the trend to Refrigerant-22 units resulting in high unit operating temperatures, and the high loading of the electric power lines.

### Example of What Heat Will Do to Cellulose

Here's an example of what heat will do to 3 ozs. of cellulose, a material that is widely used in motors used in hermetic condensing units.

If motor temperatures never went above 200° F., the cellulose might go on unchanged for 100 years.

However, should the temperature go above 300° F. and stay there for any length of time, the cellulose will tend to break down into various components—among them, moisture. Thus, "contaminants" are formed, and the system becomes clogged and motor burnout is likely.

A drop in line voltage that resulted in a stalled motor might push the temperatures up to over 400° F., said Elsey, and the breakdown might come in less than 48 hours. At tempera-

The Contaminants Conference at the recent annual meeting of the American Society of Refrigerating Engineers offered much information on the cause and nature of contamination in refrigeration systems, especially those using hermetic condensing units. Some of the discussion was concerned with what to do about contamination, and how to clean-up and put a system back into operation following a motor burnout caused by contamination.

This report will be presented in two parts—first, a report on the causes and nature of contaminations. The second part will describe the steps taken to put a system back into operation.

tures of over 500° F., it could happen within a few hours.

Among the contaminants that would result from such a breakdown brought about by excessive temperatures would be moisture (and from the moisture, acetic acid), acetone, and residual tars.

### Other Contaminants Produced

Among other contaminants, Elsey listed carbon tetrachloride as especially harmful. It will go into solution with oil, and accelerates the oil's decomposition into residues much faster. An oil film has a tendency to cling to motors, it was pointed out, and when carbon tet is present a system foul-up becomes likely.

Mere heat by itself will not result in decomposition of Refrigerant-12 or Refrigerant-22 until temperatures as high as 500° C. are reached, it was stated by F. J. Norton, General Electric Research Laboratory, in discussing rates of thermal decomposition of refrigerants.

However, where iron oxide or iron or copper powder is added to the refrigerant, a big increase was noted in the rate of decomposition, and decomposition also started to show up at 150-170° F.

### Reveal Useful Facts

Some interesting and useful laboratory developed facts about refrigerant decomposition and system contamination were revealed in the discussion of "Sealed Tube Tests with System Components" by D. E. Kvalnes, manager, technical department, Freon Products Div.

In these bench tests refriger-

ants were mixed with oil and water and contaminants and heated, and a study made of the results.

One important result noted was that in such mixtures Refrigerant-12 and Refrigerant-22 showed much greater stability at 250° F. than at 300° F.

R-12 was less stable at 300° than R-22, the former showing about 10% decomposition, while R-22 was at a considerably lower rate.

### Keep Paraffin At Low Level

On the matter of oils, the tests showed that it was important that the paraffin content be at a low level, and that oil additives be used with extreme care. Where such precautions were not taken, some ill effects, a tendency to copper plating among them, start to show up in less than a year, more with R-12 than with R-22.

Where aluminum was placed with the refrigerant, it did not bring about any great increase in the rate of decomposition, except when alcohol or methanol was added. When methanol was

(Continued on next page)

when buying  
copper or  
copper base  
alloy tubing  
remember,  
**TEMPER**  
it should  
be tuned  
to the task!

The right temper for the task can mean the difference between success or failure, profit or loss. But, relax! Whatever your requirements, specify United seamless copper or copper base alloy tubing. Do so with confidence that the industry's finest quality and production control systems will deliver tubing drawn precisely to your specifications... for temper, size, gauge, grain structure, cleanliness, dimensional perfection and cost!

You pay no more for this quality! United tubing, the finest in copper and copper base alloy is available in coils, straight mill lengths or cut to your specifications.

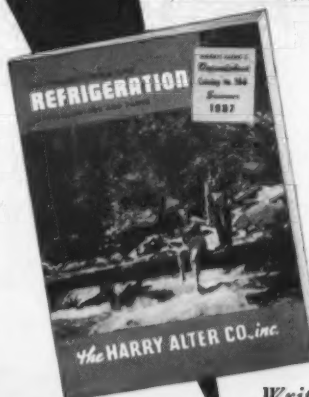
For full information, write or call United.

**UNITED WIRE**  
AND SUPPLY CORPORATION  
PROVIDENCE, RHODE ISLAND

COPPER, BRASS, ALUMINUM WIRE AND TUBE BRAZING ALLOYS - PHOSOR - SIL BOND

## REFRIGERATION is our SPECIALTY

Air Conditioning and Electric Motors, Too!



OVER 10,000 ITEMS... the world's most comprehensive listing of parts and supplies... appear in the Harry Alter DEPENDABOOK No. 166 Summer, 1957 complete with illustrations, descriptions, prices and other useful information.

SAVE MONEY, time and effort by ordering the parts you need from this compact, easy-to-read, up-to-date catalog.

Write on your letterhead for the DEPENDABOOK

**PARTS**  
and  
**Supplies**

WHOLESALE ONLY

The HARRY ALTER CO., Inc., 1717 S. Wabash Ave., Dept. A, Chicago 16, Ill.

or visit branches

134 Lafayette Street  
New York 13, N. Y.

122 Parkhouse Street  
Dallas 7, Texas

Bldg. B, Unit 8, 690 Stewart Ave., S.W.  
Atlanta 10, Ga.





RETIRING ASRE President Carlyle M. Ashley (second from right) receives the past president's award from new President Hermann F. Spoehrer during recent annual convention of the American Society of Refrigerating Engineers. At far right is Cecil Boling, first vice president of the engineering society.

## Refrigeration System Contaminants--

(Continued from preceding page) added by itself in a "pure" test there was not much effect, but it does react with aluminum to form undesirable products.

The sealed tube tests also showed that water in itself was not much of a factor, but was highly reactive with other element such as oil, when they were added to the mixture.

These and other tests show that refrigerant line driers are useful not only in preventing the plugging of capillary tubing and orifices, but also function to minimize chemical reactions in refrigerants by removing impurities that are present.

### 'Refrigerant-22 Unstable To Alkaline Conditions'

Refrigerant-22 is unstable to alkaline conditions, where Refrigerant-12 is not, Kvalnes stated. Where there are iron oxides present in these refrigerants, an oxidizing reaction is probable at high temperatures.

"We have a chemical factory in our refrigeration systems," declared R. T. Divers, Research and Development Div., Carrier Corp., in discussing the role of electrical insulation in the contaminants problem.

Ground insulation and that for the leads are cellulosic in nature, said Divers in discussing the type of materials present in the hermetic motor. Cotton tie cords are also cellulosic.

There are thermal setting resins in some parts (sometimes in laminations), and end turns may have a thermoplastic overcoating.

Cellulosic materials are hygroscopic, said Divers, and moisture or water will be one of the results of any breakdown of such materials when there is sufficient heat. Slot liners in the hermetic unit motor represent a spot in which excessive heat is likely to develop.

### Particularly Bad Contaminants

If hydrogen chloride or hydrogen fluoride are present in a system, the resulting contami-

nation of the system may be particularly bad, it was stated.

At excessive temperatures which are still below the charring temperature range, some glucose or acetic acid may form as a result of decomposition, and further chemical reaction is then probable.

Vinyl acetate films, often present in the coating of motor insulation, will give off some reaction products where excessive heat is present, although not much is known about this phase of the problem.

Where there is a complete breakdown in the insulation to the point where it is losing its insulating value, and electric arcing results, refrigerant decomposition may be greatly accelerated.

### Outlines General Statistics

Some general statistics from studies of failures of field-installed hermetic refrigeration units were outlined by D. E. Friedman, laboratory technician, Hussmann Refrigerator Co. Part of the study involved some comparisons of units using R-12 as the refrigerant, and units using R-22.

All of the units studied in the survey were being used in refrigeration applications. Of the units studied, five times as many Refrigerant-22 units were being used in low temperature applications as Refrigerant-12 units. Twice as many Refrigerant-12 units were being used on "medium temperature" applications as Refrigerant-22 units.

Failure rates were very low on all the field installed hermetic systems studied, but there was some variation by type of system and application. For example, the failure rate for medium or regular temperature Refrigerant-12 units was considerably lower than for Refrigerant-12 units used in low temperature work. Higher compression ratios and higher operating temperatures in the latter units were regarded as the reason for this difference.

For units out of warranty the

failure rate on Refrigerant-22 low temperature units was some, but not much greater than that for Refrigerant-12 units. The study also showed that failure rates did not go up precipitously as the units got older.

### Desiccants May Absorb Some Acid Residues

There is some evidence through laboratory experimentation that acid decomposition products and contaminants in a refrigeration system may be absorbed by desiccants in refrigerant line driers, declared Dr. W. O. Walker, dean, Division of Research and Industry, University of Miami.

However, there are many problems in the study of acid sorption properties of refrigerant desiccants, said Dr. Walker, and he urged further studies along this line of endeavor.

In his studies, Dr. Walker said, there was ample evidence that overheated oil and refrigerant mixtures resulted in the formation of hydrochloric acid and hydrofluoric acid.

In one of the discussions on the talks Dr. Elsey pointed a harsh finger at carbon tetrachloride as a contaminant of systems.

"I wouldn't have it in the same building where I was working on a refrigeration system," he said. "Even the vapors are injurious."

(To Be Continued)

### Looking Up

## Most Mfrs. Find Sales, Earnings Up Thus Far

DETROIT — Although sales and net income of Fedders-Quigan Corp. dipped in the fiscal quarter ended May 31 compared with the corresponding quarter a year ago, sales and earnings in the nine months to May 31 set records for any comparable period in company history, Salvatore Giordano, president, announced.

Sales of \$20,745,003 brought earnings of \$1,293,277 in the third quarter compared with \$23,867,344 sales and \$1,315,497 earnings last year. Earnings in both quarters were equal to 70 cents a share.

Net profits for the nine-month period ended May 31 rose to \$2,667,206, equivalent to \$1.43 a share, from \$2,044,832 or \$1.07 a share in the comparable period of the previous year. Net sales for the nine months were \$54,229,162 against \$47,718,011 for the corresponding period in fiscal 1956.

Meanwhile, a roundup of other

companies' sales and earnings showed Iron Fireman Mfg. Co. with a "favorable trend over last year," according to Louis J. Cox, first vice president and chief executive officer. He declined to mention specific figures, but predicted a modest increase in sales volume for the year.

McCord Corp. reported its net income for the nine months ended May 31 at \$1,093,763 on sales of \$31,190,531. This was equal to \$2.68 a common share and compares with \$1,351,559 or \$3.35 a common share for the nine months to May 31, 1956. Sales for that period were \$34,078,881.

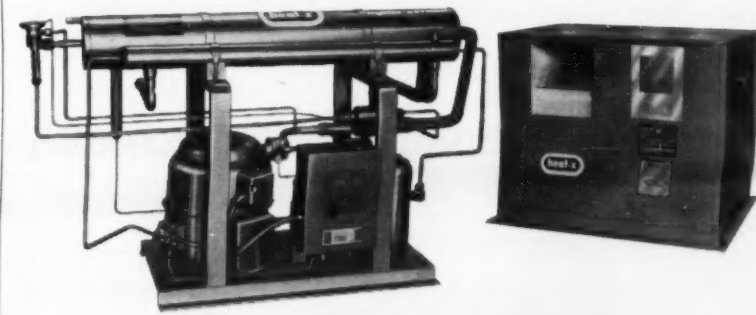
Net sales of O. A. Sutton Corp. for the first six months of its fiscal year increased 10.4%, but net income fell more than 59%, the firm announced. Share earnings for the first half ended May 31, were 35 cents a share, after preferred dividends, com-

pared with 90 cents last year. Six months total sales totaled \$28,920,471 against \$26,194,266 in the like period of 1956. Second quarter net income dropped from \$780,067 in 1956 to \$184,729 this year, with sales cut to \$13,793,938 from \$15,780,626 last year.

Rheem Mfg. Co. reported second-quarter earnings to May 31 would be "several times better" than in the like period last year and also above the \$611,464, or 30 cents a share, reported for the first quarter, A. Lightfoot Walker, president, said. Earnings in the June, 1956 quarter were an indicated \$227,238 on sales of \$44,035,587. For all of 1956, Rheem reported a loss of about \$9 million.

Sales during the first five months this year reached \$85 million, or about \$15 million more than in the like period last year, Walker further stated.

## BOOM FORECAST in RESIDENTIAL AIR CONDITIONING



## Assure YOUR Profit Share with these NEW heat-x Units

Completely packaged water chillers... in 2, 3 and 5 HP models... designed for easy, speedy installation that builds profits. Available in water-cooled models ('RPC') and air-cooled models ('ARPC'), these new Heat-X units were developed specifically for residential and light commercial air conditioning systems.

High efficiency patented Inner-Fin® construction of chillers, superheaters and condensers makes these the most compact units on the market. All water passages are of non-ferrous construction, eliminating corrosion problems.

Don't be left behind in the coming residential air conditioning boom. Write today for complete data on 'RPC' and 'ARPC' units.

## HEAT-X, Inc.

A Subsidiary of Dunham-Bush, Inc.

BREWSTER • NEW YORK

## Beverage-Air DRAFT BEER COOLERS

Low Cost Cooling — From Keg To Faucet Valve

Write for literature

THE PUNXSUTAWNEY COMPANY  
705 THIRD ST. - PUNXSUTAWNEY, PA.

The only balanced system available in new, compact, handsome models that boost draft sales — cost less to install and operate. Stainless steel taps and stainless or baked enamel exteriors. Refrigerated "Utility" compartment for bottles, glasses, etc.



Model DD 62-S



## 33-Ft. Wide Market Packs In Modern Features, Installs All Air-Cooled Equipment, 'Banana Tree' In Produce Dept.

By George M. Hanning

CHICAGO — By comparison with the huge new supermarkets that the national chains open every day, the newest Vito's Certified Market is a small thing, indeed.

However, in a building that measures 33 ft. from wall to wall through half its length and 84 ft. from glassed-in meat packaging room to automatic checkout stands, Vito Masciopinto has concentrated all the attributes of a modern supermarket.

### Travel 3 Aisles In Conditioned Comfort

His customers have only three aisles to travel. But they do it in air conditioned comfort.

Around the periphery of those aisles are 158½ running feet of the latest self-service refrigerated display cases. Separating them are 247 ft. of grocery shelving.

Three automatic checkouts and one express checkout stand ready to speed shoppers on their way—after they leave behind an anticipated \$40,000 per week.

The new unit is located on busy E. 63rd St. on Chicago's southeast side. It lies in the heart of a good, but crowded, working class neighborhood. Vito's other three markets are

also in this area. The other markets are about the same size or larger than the new unit.

Lee Shell Co., C. V. Hill distributor here, designed and made the complete packaged installation, using "Shellcrest" air conditioning units, Hill refrigerated fixtures, and "Almor" shelving and automatic checkouts.

### 'Concentrated Selling'

"This store is a study in concentrated selling," Irving W. Shell, president, declared. "There isn't a square inch of space wasted. Latest type equipment, store arrangement, and merchandising techniques are used throughout."

"Vito has stepped out of the ordinary store class and into a modern-looking store. He is convinced that this means success," Shell asserted.

A feature of the installation is that all air-cooled equipment is used. It is one of the first market jobs all air cooled for year-round operation that Shell has installed.

There are three air-cooled condensers mounted on the roof. One—a 10-ton unit—serves the two air conditioning units suspended from the ceiling near one side of the store.

The other two condensers are

15-ton units that take care of the 14 compressors handling the store's refrigeration equipment. The compressors are racked up behind the refrigerated meat cutting room at the rear of the store.

The high cost of water for water-cooled equipment used in his other stores convinced Vito to make the switch to air-cooled units, according to Frank Masciopinto, his son and vice president of the 25-year-old firm.

### First Dept. Is Produce

Unlike many markets, the first department that entering shoppers approach is the produce department. This department is designed to make not only a first but a lasting impression on the visitor.

For right in the middle of the 36 ft. of refrigerated produce cases rises a banana palm tree. It's slim brown-barked trunk soars to the ceiling. At the top, broad-leaved green fronds spread out, revealing clusters of yellow-ripe bananas.

At the base of the tree, a grass-covered rack supports the banana display.

The tree isn't real, of course, though the bark is genuine, according to Shell. But it is life-like enough to startle a visitor fresh from the grim asphalt and steel on 63rd St.



BANANA PALM rising out of produce display gives unusual touch to Vito's Certified Market on Chicago's E. 63rd St. (Vito knows bananas don't grow that way, but who cares?) Frank Masciopinto, son of owner holds aloft a bunch of bananas from display. One of two air conditioners cooling the store is seen above.

Carrying the theme further, two unsightly supporting pillars, one at the front of the store, the other at the end of the produce display, are camouflaged to represent coconut palms.

Beyond the produce department are 15½ ft. of poultry case and another 15½ ft. of fish case.

Across the rear of the sales area extend 30½ ft. of self-service meat case. Attached along the back ledge of the cases is a nylon-wheeled conveyor strip for ease in loading the cases.

### Saves Steps

A small pass-through door in the partition between the cutting room and the aisle behind the meat cases saves steps for both the meat cutters and the clerk who loads the displays.

The pass-through door is at one end of the pre-packaging table. When the packaging operation is completed, the meats can be slid out to the waiting clerk with no lost motion.

If displays are filled, two steps take the meat cutter to the door of the meat walk-in cooler where the loaded platters are stored.

Along the other side wall,

moving toward the front of the store, are 12 ft. of non-refrigerated shelving for baked goods, 28 ft. of dairy display shelving, 25¼ ft. of frozen food display, and 8 ft. of ice cream display.

(Concluded on next page)

## PREST-O-LITE

Trade-Mark

### Halide Leak Detector



- SENSITIVE
- DEPENDABLE
- EASY TO USE

Outfit (less tank) as illustrated ..... \$28<sup>25</sup> (list)

With this handy and compact outfit you can quickly locate leaks of non-combustible halide refrigerant gases in tight corners, among a maze of pipes, high overhead—anywhere—with pin-point accuracy. The economical detector reacts instantly to concentrations as small as 100 parts of refrigerant gas in one million parts of air.

Twelve and one half feet of hose connects the leak detector to the B tank of acetylene gas to allow complete freedom of search without carrying or shifting the tank. A ceramic insulating sleeve restricts the heat of the flame to the test zone, assuring operator comfort.

### SEE IT AT YOUR LINDE Jobber's

Or write for further information: LINDE COMPANY, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Linde Company, Division of Union Carbide Canada Limited, Toronto.

The terms "Linde" and "Prest-O-Lite" are registered trade-marks of Union Carbide Corporation.

## LEHIGH BLU-COLD CONDENSING UNITS

lead in

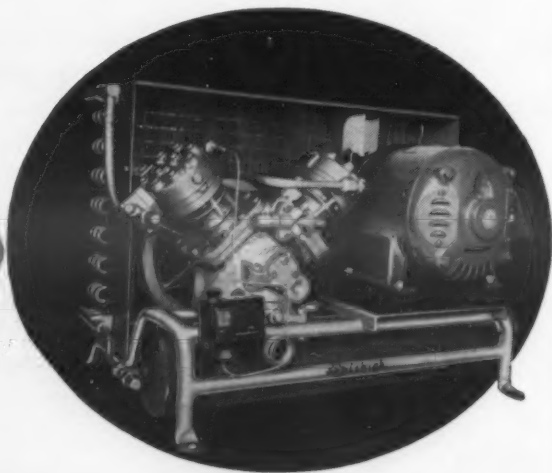
**ADAPT-ability**

**DEPEND-ability**

**FLEX-ability**

**SERVICE-ability**

—and their unique tubular air-frame base adds complete ACCESS-ability!



where "ability" counts,  
specify Lehigh

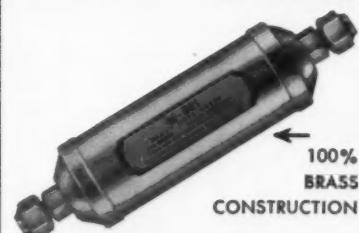


**Lehigh MANUFACTURING CO.**

DIVISION OF LEHIGH, INC. • Plant: Lancaster, Pa.  
Export Dept.: 13 East 40th Street, New York, New York

write now . . . for important informative catalog

## SAVE \$\$\$



## WABASH HI-DRI

Lowest Priced Dryer  
On The Market Today

Because of improved production techniques, we make the lowest priced, quality, heavy duty dryer available. HI-DRI's performance tops or equals that of any other dryer. HI-DRI has all the same qualities . . . all brass shell, PA-400 silica gel, brass outlet screens, seams silver soldered, 100% guaranteed, but . . . is lower priced. Increase your profits by using Wabash. Write for information today.

## WABASH CORP.

2300 S. Western Ave.  
Chicago 8, Ill.





CHECKING THERMOMETER on ice cream display are Mrs. Vito Masciopinto (r.) and her daughter Anne. Just to left of their hands can be seen transparent plastic divider separating -20° F. ice cream case from 0° F. frozen food case.

## 'Small Super'--

(Concluded from preceding page)

The frozen food and ice cream cases have the appearance of being all one case. But, Shell pointed out, a plastic divider separates them. Thus the ice cream case can hold -20° F., while the frozen food cases maintain 0° F. or slightly below.

### Dial Thermometer In Every Case

Every refrigerated case in the store is equipped with a dial thermometer. The thermometer is prominently displayed so all can see what temperature is being maintained.

While they impress the customer, the thermometers are primarily installed for the convenience of the store manager, Shell explained. As he passes down the aisles he can check the thermometers for proper temperature.

If the temperature is abnormal, he can double check the case a little later to see if any change has occurred. If the case has not corrected itself, he can call for service right away before anything really serious develops and food spoilage occurs.

### Protects Owner, Bars Emergency Calls

This not only protects the owner, but it also eliminates emergency calls at night for the contractor, Shell points out. His men can handle these calls during regular working hours, cutting down on overtime.

It saves time for the store owner, too. When he seeks emergency service, he must wait for the serviceman to come and then make the repair before he can leave the store himself.

"If a thermometer saves one emergency call, I figure that it pays for itself," Shell contends. "For this reason, I always put a thermometer on every case I sell. I think they should be standard equipment."

Back room area is "L" shaped. It runs across the rear of the building and along one side behind the poultry and fish cases. It measures only 16 ft. deep across the back and only 13 ft. along the side.

### 55° Cutting Room

About three quarters of the depth in the rear is occupied by the meat cutting room, which is refrigerated to 55° F., the meat cooler, and the fish and poultry cooler.

Along the side are an 8 by 12-ft. produce cooler and an 8 by 8-ft. storage freezer. This area also includes a complete vegetable packaging room equipped with cellophane sealing units and garbage disposal unit, a dairy pre-packaging table, and a fish and poultry work table.

Each preparation area has been placed as close as possible to the display area it serves.

A final modern touch to Vito's Market is a pleasant harmony of colors on the walls. One side wall is painted orange, the other apple green. The ceiling is off white.

A mural that covers the entire rear portion above the cutting room sets off the meat department. It depicts a barnyard scene containing all animals and fowl that generally provide meat for the dining table.



SELF-SERVICE meat display, only 30½ ft. long, kept five meat cutters busy during grand opening. Pass-through door to right of center pillar speeds loading cases, as does nylon roller conveyor along back of fixtures.



CONGRATULATING FRANK on the success of his grand opening is Irving W. Shell, (l.) president of Lee Shell Co., who laid out the extremely compact store and installed the fixtures. Refrigerated shelving for dairy display is at Frank's left.

### Warren's Model XP Refrigerated

Shelves put all the produce out

in easy view... easy reach.

Customers can select quickly

from the three attractively displayed produce shelves. And

this versatile case can be

included in the same MULTI-

CASE with Refrigerated Shelves

for Dairy. Case top is a fourth

deck for nonrefrigerated

associated items.

Selection is easy...  
with Warren's new  
three-tier refrigerated  
shelves for produce



Warren  
Refrigerators

Export Div.: P. O. Box 27884, Los Angeles 27, Cal. • P. O. Box 1436, Atlanta 1, Ga.

ARE you in need of a "just right" man to fill a slot in your organization—the man you are looking for will be reading the

NEWS' CLASSIFIED ADS

(See Page 34)

## FLEXON VIBRA-SORBERS®

resist vibration fatigue

Flexon Vibra-Sorbers are corrugated flexible metal connectors for absorbing vibration and noise in compressor systems.

They are manufactured of high quality special bronze alloy excellently suited for freon and methyl chloride. The Vibra-Sorbers' precision construction, uniform wall thickness and balanced corrugations provide maximum resistance to fatigue under constant flexing and vibration.

For effective, economical vibration control, use Flexon Vibra-Sorbers—U.L. listed in sizes 3/16 through 1 1/2" I.D. Larger sizes to 8" available. Ask for Bulletin 139.

NOW  
AVAILABLE  
FROM  
FLEXONICS

Flex-O-Tube synthetic Freon-resistant hose for refrigeration and air conditioning service. Also, flexible metal connectors for circulating pumps. Write for information.



**Flexonics Corporation**  
1415 S. Third Avenue  
Maywood, Illinois

Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.  
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

V-27

# AUTO-LITE

...TEMPERATURE  
INDICATION



Original equipment manufacturers may choose from a complete line of Auto-Lite dial thermometer types, in ranges to meet the requirements of specific applications.

Send for our latest catalog describing the many Auto-Lite thermometer styles and types.

**THE ELECTRIC AUTO-LITE COMPANY**  
Instrument and Gauge Division  
Toledo 1, Ohio  
New York • Chicago • Sarnia, Ontario



TEMPERATURE INDICATORS & RECORDERS



## Refrigeration Problems And Their Solution

(As Written by Paul Reed)

The late Paul Reed, one of the refrigeration industry's most respected writers and teachers, wrote a column on "Refrigeration Problems and Their Solution" which was published regularly in AIR CONDITIONING & REFRIGERATION NEWS for more than 15 years.

Readers throughout the years have hailed this written material as some of the most practical and helpful that has ever been published. Fortunately, the author had an opportunity to revise some of this material in the months before his untimely death, and the NEWS is re-publishing some selected instalments with the thought that it will be useful and interesting to its present readership.

### Hot Weather Hints (3)

There are two main reasons why refrigeration equipment gets such a hard work-out in hot weather.

#### LOAD IS UP

1. The load on the equipment is much heavier than in the winter. It is not uncommon for the load to be three times as much in hot weather as in cold weather.

The "heat-leakage" load, i.e. the heat that "leaks" through the walls of the cabinet, is greater. As a matter of fact, this heat leakage load is in direct proportion to the temperature-difference between the inside of the cabinet and the outside of the cabinet.

If the inside of the cabinet is held at 40° and the outside temperature is increased from 70° to 100°, the heat leakage load doubles, for the temperature-difference has doubled, that is, from 30° to 60°.

The product load also becomes greater. The food is usually warmer when it is put in. In hot weather, cooled foods are apt to be preferred to hot ones, more ice cubes are used, drinking water and cold beverages are in greater demand.

Moreover, the service or usage load is also greater. The refrigerator doors are likely to be opened more often and hotter air of higher humidity is let in while the doors are open.

So, in the hot weather, the refrigeration equipment has to remove more heat from the cabinet than in cool or cold weather, and has to run more hours out of the 24 in order to remove this additional heat.

#### MACHINE CAPACITY IS DOWN

2. The condensing unit, especially if it is an air-cooled one, has less capacity in hot weather than in cold weather.

The compressor can pump more gas if the discharge (condensing) pressure is low than if it is high. A high discharge pressure in-

creases the amount of gas left in the cylinder at the top of the stroke of the piston; there is more gas, and at a higher pressure, left in the cylinder to re-expand on the downward stroke, and this thereby reduces the amount of gas let into the cylinder from the suction line.

Ideally, the discharge valves should close the instant that the piston starts back down, and thus trap the gas that has been pushed over from the cylinder to the condenser.

In actual compressor operation this is not quite true, for the discharge valves do not close instantly. So while they are partially open as the piston starts downward, some of the hot, high-pressure gas from the condenser slips back into the cylinder, and this increases the re-expansion gas in the cylinder.

#### LOAD UP; CAPACITY DOWN

Thus, right at the time (in hot weather) when the load on the refrigerating machine is greater, and more capacity of the machine is needed, its capacity and efficiency become less, due to the increase in condensing temperature. So even if the load had not increased, the machine would have had to run more hours out of the 24, because its capacity is less, right at the time when it should be greater in order to handle the increasing load.

Sometimes we can do things to hold down the increase in load: tighten door hardware, replace worn or loose door gaskets, use more care in putting hot food into the refrigerator, reduce unnecessary opening of refrigerator doors, keep direct heat rays from the sun or a hot stove off the cabinet, arrange for good circulation of air around the cabinet, and otherwise reduce the amount of heat load on the refrigerating machine.

But on the whole, we have to expect and accept a heavier heat load on the system in hot weather than in cool or cold weather, and there isn't very much we can do.

But we can do something about preventing, or at least holding to a minimum, the loss of capacity of the condensing unit.

#### KEEP SUCTION PRESSURE UP; HEAD PRESSURE DOWN

To get the most out of a refrigeration system and more particularly, the compressor, it is a cardinal rule to "keep the suction pressure up and the head pressure down." We have described ways to keep the suction pressure up, now let us study how to keep the head pressure down.

If it is a water-cooled condensing unit, equipped as is usually the case, with a water-control valve actuated by condensing pressure, there will ordinarily be less decrease in its capacity in the summer than if it were an air-cooled condensing unit.

As the load on the condensing unit goes up, the tendency would be for the condensing pressure to rise, for the condenser has more heat to get rid of and its tendency is to raise the condensing pressure so as to provide a greater temperature difference between the cooling water and the refrigerant and thus increase condenser capacity.

#### CONSTANT HEAD PRESSURE

However, the water control valve is regulated by condensing pressure and its purpose is to maintain a constant condensing pressure. A rise in condensing pressure causes the water-control valve to open a bit more and let more water into the condenser in order to maintain the former condensing pressure.

Thus, the increased flow of water absorbs the added load, so the condensing pressure remains the same. Increased water flow means more water used, and added cost of operation, but it is money well spent if the condensing unit is rather heavily loaded.

Without this added water flow, the increased load in the summer

would cause the condensing pressure to rise, and this might so reduce the capacity that, along with increased load, it might result in continuous operation and/or inability of the machine to maintain temperatures on jobs on which the condensing unit was barely big enough under normal conditions.

#### WARMER WATER SUPPLY

But as a rule, the available condensing water is warmer in the summer than in the winter, so more will be used even if the load does not increase in the summer, which it usually does, however.

Usually, there isn't much that we can do about the temperature of the water. It comes from the city mains or a private well and the temperature of those sources is not within our control.

But sometimes, there are conditions affecting the temperature of the supply water that we can control. The water line from which we are getting the water for the condenser, may be run close to the surface of the ground for a long way, and the water becomes

heated. In such cases, perhaps it is possible to connect to some other line.

The water line may run near a boiler or other heating device and the water becomes much warmer. Such a water line may be insulated or re-routed.

If no reasonably cool water is available, then an evaporative condenser should be considered. They are available in even the smaller sizes and can very well pay for themselves in a year or so, not only in water savings (about 90% savings of water used), but also in savings of electric current.

Condensing temperatures using an evaporative condenser can be kept to a few degrees above the wet-bulb temperature. There are very few places in the United States or Canada where the design wet-bulb temperature is as much as 80°, and there are many places when city water temperatures go 90° or higher in summer.

A reduction of 15° in the condensing temperature of a condensing unit will ordinarily result in an

(Concluded on next page)

## FREE BULLETIN

tells how

## ANEMOTHERM Air Meter

saves in balancing air conditioning,  
heating and ventilating systems

The Model 60 Anemotherm Air Meter, developed by the Anemostat Corporation of America, gives you — in one convenient instrument — a simple, rapid method of balancing and checking any air system. It puts at your fingertips, by means of color-coded pushbuttons, air velocity, air temperature and static pressure. • The Anemotherm Air Meter pays for itself through time saved on only one major job. Write for Bulletin 55 giving all the facts.

AC 1338

ANEMOSTAT CORPORATION OF AMERICA  
10 EAST 39TH STREET, NEW YORK 16, N. Y.

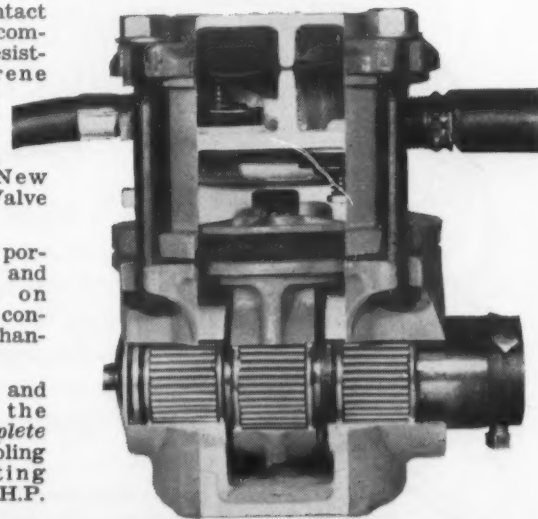
## Solve your service problems with the ACE Diaphragm Descaling Acid Pump

- All parts in contact with descaling compounds are acid resistant . . . Neoprene diaphragms . . . nickel-iron pumping chamber. Stainless steel valve parts. New Hastelloy "C" Valve Springs.

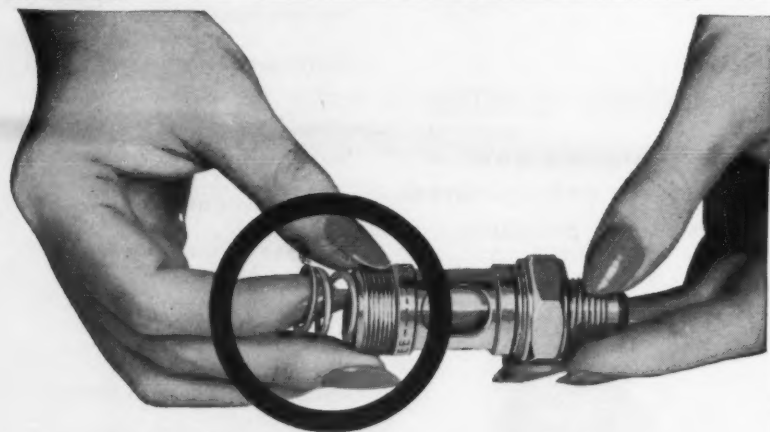
- Entire unit is portable . . . pump and motor mounted on sturdy base with convenient carrying handles.

- Manufactured and guaranteed by the makers of the complete line of Ace cooling tower circulating pumps . . . ¼ H.P. thru 7½ H.P.

Manufacturers' representatives and distributor inquiries invited.



**ACE** PUMP CORPORATION  
140 HERNANDO ST. • MEMPHIS, TENN.



## SHE'S PUTTING SPRINGS IN E-Z-SEE LIQUID INDICATORS

To you, E-Z-See liquid indicators with spring compensated gaskets mean NO LEAKS—with Refrigerant 12 or Refrigerant 22—at operating pressures through 500 p.s.i. and operating temperatures up to 200° F. and down to minus 40° F!

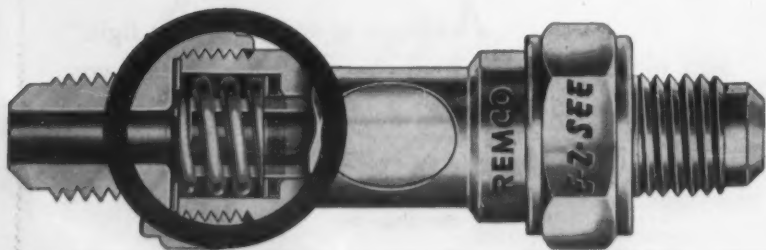
Double port, easy to see through, spring compensated E-Z-Sees are available with male flare x male flare, male flare x female flare and with extended sweat connections which permit soft or silver soldering without disassembly.

E-Z-Sees are also available with a very sensitive FLO indicator flap directly in the refrigerant stream. With this sensitive flap all variations in flow are instantly indicated.

The full story is given in Bulletin R-11. Write today for your copy.

AVAILABLE TO THE TRADE THRU WHOLESALERS

**REMCO INC.**  
ZELIENOPLE, PA.





## Hot Weather--

(Concluded from preceding page)  
increase of 10% in the capacity of the unit. So by using an evaporative condenser, the capacity of the machine can be increased in the summer by 10%, and the reduction of running time can effect saving in the cost of current.

### RESTRICTED WATER FLOW

Water-cooled condensers can get "dirty" or partially stopped, so that even with the water-control valve wide open, there is not enough water passing through to hold the condensing temperature and pressure down to normal. Sediment, mineral incrustations, etc., not only restrict water flow, but they also reduce the heat transfer rate.

Check the water coming from the condenser. If it is much above 100° it is too hot. Perhaps the water tubes in the condenser are partially stopped with scale, rust, or sediment or mineral deposits.

If the condenser is the cleanable type (as most shell-and-tube type condensers are) take the end plates off and "rod" them out, or they can be chemically cleaned.

Stoppage may not be in the condenser, or at least not in the condenser alone. The supply line may be restricted by rust, scale, or mineral deposit. If soft copper tubing has been used to connect from the water line to the condenser or from the condenser to the drain, it may be kinked or partially flattened.

The water-control valve itself may be partially stopped, its regulating mechanism may not be operating properly, or it may be incorrectly adjusted. Also, check to see that the gas line from the condenser to the water-control valve is not restricted or partially stopped by foreign matter.

Most valves have a small restrictor hole in their inlet fitting to reduce the pulsating effect of the pistons of the compressor. This is a very small hole—often as small as twenty-five thousandths of an inch (.025), and this can be stopped by a tiny piece of scale.

### LOW PRESSURE

The water pressure may be low, and there is not enough pressure to put enough water through the condenser. The effect of low water pressure will be a good deal the same as if the water tubes in the condenser are restricted, or if the water supply line is partially stopped. Some water valves will not work on low water pressure.

Low water pressure may be the water company's fault due to inadequate pumping equipment and/or overloaded water mains.

Low water pressure can also be caused by inadequately sized water lines on the users premises; or the water usage may be excessive. It is much like low voltage; it may be that the user has outgrown his water lines and has overloaded his whole water system, or perhaps only one branch line is overloaded.

### VENTILATION

It should be remembered, too, that even a water-cooled condensing unit must have some air circulation around it. The water passing through the water-cooled condenser carries away most of the heat, but there is some heat radiated to the air by the condenser itself, the compressor, and a good deal by the motor. This may amount to as much as 10 or 15% of the heat carried away by the condensing water.

It takes some air circulation to carry away this heat. In restricted machine compartments of self-contained equipment using water-cooled condensing units, such as store coolers, it is sometimes necessary to provide a finned coil with water passing through it to carry away the heat from the motor, condenser, and compressor and thus keep the machine compartment from getting too warm.

## Men on the Move . . .

**Norge Div., Borg-Warner Corp.**—E. A. NASH was appointed director of gas appliance sales. He was formerly general sales manager of Servel, Inc.

**Acme Industries, Inc.**—JACK J. BACSIK, former superintendent of installations for a Chicago contractor, has been named service manager. He is a veteran of 20 years in the air conditioning and refrigeration field.

**Recold Corp.**—W. LES WERNER has been appointed district manager for northern California, Oregon, Washington, and western Canada. He formerly represented the firm in the southeast.

**Cerro de Pasco Corp.** (New York City)—FELIX S. DREYER and RICHARD H. LEWIN, president and executive vice president of Lewin-Mathes Co. division, have been elected to the board of directors of the parent firm.

**Peerless Pump Div., Food Machinery & Chemical Corp.** (Los

Angeles)—Appointment of EVERETT W. LUNDY, previously assistant sales manager, to general sales manager has been announced. He succeeds B. A. TUCKER, retired.

**Trane Co.**—GREGORY B. LITTELL, JR., assistant to the superintendent of the Scranton plant, has been appointed superintendent, succeeding RICHARD SCHIEWETZ, and ALEXANDER S. HAIR, who has been in charge of convector assembly, baseboard fabrication, "Wall-Fin," and spotwelding departments, has been named general foreman at the Scranton plant.

**Carrier Corp.**—HAROLD F. OSTERHOUDT, sales engineer, has been named manager of the new branch office of the Machinery & Systems Div. in San Antonio.

**Waste King Corp.**—Election of BERTRAM F. GIVEN, executive vice president, to succeed his father, SAMUEL, as president has

been announced. Samuel Given will continue as board chairman.

**L.O.F. Glass Fibers Co.**—SHERIDAN M. KERR has been appointed field representative with the Pacific Coast Div. He was associated with Merchant Shippers Association as sales manager.

**Central Scientific Corp.** (Chicago)—This Cenco Corp. subsidiary has announced appointment of A. E. KNOX to the new post of national sales manager. He has been manager of the Mountainside, N. J. branch.

**Union Carbide Corp.** (New York)—T. J. COLEMAN was named vice president of Union Carbide Development Co., a division.

**Electric Auto-Lite Co.** (Toledo)—G. W. WATTLES, chairman of Mergenthaler Linotype Co., has been elected chairman to fill the post vacant since 1954.

**Armstrong Cork Co.**—EMMETT W. HINES, of the Washington, D. C. branch office, has been reassigned as sales representative for the Syracuse, N. Y. area with the Insulation Div. DONALD R. HERB has been reassigned from Chicago

to Madison, Wis.; WILLIAM O. DAILY from Kansas City, Mo. to Boston; and CLIFFORD D. SPAID, who recently joined the firm, to Toledo.

BURRELL E. CARNEY has been named a construction superintendent in the Houston, Texas office of the Insulation Contract Service and ROBERT G. SINDE-LAR appointed to the same post in Atlanta. LEO T. KELLY, sales representative in the Pittsburgh area and associated with the firm for 33 years, has retired.

Trying to find  
the right man for a  
hard-to-fill vacancy—  
the NEWS' Classified  
Ads are read by your  
man.  
Place your ad today!



## Permagem makes a perfect seal every time

Manufacturers and service men alike prefer the positive sealing action they get from Permagem. Used to seal inspection plates, pipe and conduit openings, refrigeration and display cases, Permagem eliminates the host of troubles which condensation can bring down on your head—from just plain heat loss to ruined insulation.

These men are using gray-white Permagem, which is odorless, never hardens, and can be painted

over immediately after application. Since it won't attack insulation, it is ideal for use around electric wiring, rubber or plastics. Brown Permagem is a heavy-duty sealer which will adhere to any dry surface and remain pliable from 0° to 350° F. Both forms come in 2½ lb. and 55 lb. slugs, while gray-white Permagem is also available in 80 ft. rolls of ¾" cords and 20 ft. rolls of ⅜" cords.

Your wholesaler has Permagem

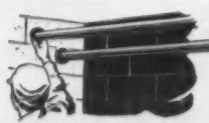
—or write Refrigeration Division, VIRGINIA SMELTING Co., 119 Jefferson St., West Norfolk, Va.



ESOTO-KINETIC CHEMICALS • FREON REFRIGERANTS • V-METH-L  
CAN-O-GAS • PERMAGUM • PRESSTITE TAPE • KWIKWRAP • SUNISO  
REFRIGERATION OILS • WATER TREATMENT CHEMICALS  
Available in Canada and many other countries



Won't attack electrical insulation.



Seals pipe openings permanently.



Perfect for refrigerator and display cases.



# Government Contracts

## SYNOPSIS OF PROPOSED PROCUREMENT

### NOTICE TO SMALL FIRMS

Shelby Air Force Depot, Wilkins Air Force Station, Shelby, Ohio. Attn.: Directorate Procurement and Production. SERVICES FOR THE REPAIRS TO AIR CONDITIONERS—32 ea.—RFP 33-602-58-3001Q—Bids will be received until the close of business 22 July 57.

### ARMY

Raritan Arsenal, Metuchen, N. J. TUBE, COPPER, Seamless, cold drawn, soft annealed, 5/16 inch O.D., 0.035 inch wall thickness, 50 ft. coil—157,900 lbs.—IFB 58-4—Bid Opening 23 July 57.

Corps of Engineers, U. S. Army Engineer District, Nashville, 306 Federal Office Bldg., Nashville, Tenn. CONSTRUCTION OF ADDITION TO OPERATIONS BLDG., Lake City, Tenn. Air Force Sta. Work consists of two room addition size 55 ft. x 44 ft., Masonry Unit walls and partitions, metal doors and frames, concrete floor slabs on grade, structural steel roof joists, metal roof deck 5 ply built up roofing. Air Conditioning and heating systems, misc. structural steel and sheet metal work, underground ducts and interior elec. work, alterations to exterior elec. system, steam distribution system, water svc lines, drainage lines—Job—IFB ENG-40-058-58-3—Bid Opening 31 July 57.

### AIR FORCE

Base Procurement Office, Offutt Air Force Base, Nebr. AIR CONDITIONING 2ND FLOOR, Building 308 Offutt Air Force Base, Nebr.—Job—IFB 25-600-57-133-B—Bid Opening 25 July 57.

Base Procurement Office, Offutt Air Force Base, Nebr. ALTERATION & AIR CONDITIONING OF ELECTRONICS SHOP and E.C.M. Room, Building 308. Offutt Air Force Base, Nebr.—Job—IFB 25-600-7-134-B—Bid Opening 25 July 57.

Base Procurement Office, Offutt Air Force Base, Nebr. MODIFY CENTRAL HEATING PLANT, Building 308, Offutt Air Force Base, Nebr.—Job—IFB 25-600-57-136-B—Bid Opening 29 July 57.

Base Procurement, Randolph Air Force Base, Texas. INSTALL 150-TON CHILLED WATER PLANT, Bldg. 905, Randolph Air Force Base, Texas—Job—IFB 41-606-58-3—Bid Opening 16 July 57.

### GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 2, Business Service Center, 250 Hudson St., New York 13, N. Y. AIR CONDITIONING 3RD Floor, conference room of Building T at 252 Seventh Ave., New York, N. Y.—Job—IFB 2PC-7-1529(ADVT)—Bid Opening 7/15/57.

General Services Administration, Business Service Center, Region 3, 7th & D Sts., S.W., Washington 25, D. C. INSTALLING AIR CONDITIONING UNITS, equitable building, Baltimore, Md.—Job—IFB GS-R3-B-5721—Bid Opening 7-23-57.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta 23, Ga. AIR CONDITIONING, MARIANNA, FLA., Post Office and Court House—Job—IFB CR4-1683—Bid Opening 7-30-57.

CENTRAL AIR CONDITIONING SYSTEM, etc., Macon, Ga., Post Office and Court House—Job—IFB CR4-1687—Bid Opening 8-13-57.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Ill. The following items are procured under IFB DCH-24132—Bid Opening 7-19-57.

REFRIGERATORS, DOMESTIC, Type I, Fed. Spec. AA-R-211C and Amend. 1, 30 ea.—REFRIGERATORS, COMMERCIAL TYPE, V.A. Spec. VB-S-8, 25 ea.

### U. S. DEPARTMENT OF COMMERCE

Bureau of Public Roads Equipment, Procurement & Transp. Division, G.S.A. Building, 18th & F Sts., N.W., Washington 25, D. C.

The following items are procured under IFB BPR-Phys. Res. #44—Bid Opening 7-15-57.

AIR CONDITIONING UNITS: waterless type, for flush-mount installation in double-hung windows: width of openings from 36" to 39"; 1 hp., 230 volt, single phase, with automatic thermostatic control; separate exhaust and ventilation controls, and with fresh-air intake on cooling cycle, similar to Westinghouse 1957, Model SW-100C2, 14 ea.—AIR CONDITIONING UNITS: waterless type, for flush-mount installation in double-hung windows: width of openings from 36" to 39"; 1 1/2 hp., 230 volt, single phase, with automatic thermostatic control; separate exhaust and ventilation controls, and with fresh-air intake on cooling cycle, similar to Westinghouse 1957, Model RW-150D2, 2 ea. To be delivered Res'h. Sta., Washington National Airport Area, Gravelly Pt., Va.

## Kennard Plans Move To St. Louis Suburb

ST. LOUIS — Announcement was made recently by Kennard Corp., air conditioning equipment manufacturer, that it will move in September into a new air conditioned plant in Arrowhead Industrial Development in Olivette.

Kennard produces cooling towers, blower units, and other large equipment for commercial and industrial installations, it was explained.

The new Kennard plant, the announcement said, will include 100,000 sq. ft. of manufacturing area and 8,000 sq. ft. of office space and is windowless.

## B-W Air Brake To Serve West Coast Customers

EVANSVILLE, Ind.—Donald J. Wood, general sales manager of the Evansville Div. of Bendix-Westinghouse Automotive Air Brake Co., announced that customers for Bendix-Westinghouse hermetic motor-compressors and condensing units on the West Coast will be served from a new warehouse location—the Westland Warehouses, 4814 Loma Vista Ave., Los Angeles.

Carl L. Olin, Bendix-Westinghouse's West Coast regional manager, will direct the operation's activities. He will maintain offices at 4210 W. 62nd St., Los Angeles.

## Food Giant Chain To Merge Into Magic Chef

ST. LOUIS — Signing of a merger agreement between Magic Chef, Inc. and Food Giant Markets, Los Angeles, was jointly announced by Cecil M. Dunn, president of Magic Chef, and Theodore E. Cummings, president of the Food Giant company.

Merger of Food Giant into the range and heater manufacturing concern will become effective July 31, if approved by stockholders at a special meeting Aug. 2.

Harold L. Fierman, a director of Magic Chef and one of its largest stockholders, will be chairman of the merged firm, it was noted.

## H. C. Patterson, Kelvinator's Commercial Div. Manager, To Retire To Fla. July 31

DETROIT—H. C. "Pat" Patterson has announced his retirement as manager of Kelvinator's commercial division, effective July 31.

He has been in charge of the division since 1946 and he has been with the company for the past 20 years.

### 'FIRM UPPED POSITION IN LAST 11 YEARS'

"During the 11 years that Patterson has been steering the company's commercial activities, Kelvinator has maintained and increased its solid position in important areas including ice cream cabinets and beverage coolers," it was pointed out.

Although he majored in chemistry and agriculture at Ohio State university and began his career as a chemist, Patterson has spent more than 35 of his 40 years in business in the field of sales.

His first job following graduation in 1916 was chief chemist for the Recording & Computing Machine Co. of Dayton. In 1918, he moved to National Cash Register Co. as research chemist, but soon found that this work was affecting his health.

The combined advice of a doctor to change his work and the company president to try sales, persuaded Patterson to go into what has been his life work. He moved to Vaile-Kimes Pump Co. in Dayton as district sales manager in 1923 and was promoted to general sales manager two years later.

He was named sales manager of Delco Light Co.'s pump division in Dayton in 1927, and remained there for the next six years. In 1933, he joined the Geyer, Cornell & Newell advertising agency as new business manager. The agency was handling the Kelvinator account, as it is today under its present name, Geyer Advertising, Inc.

### JOINED COMPANY 20 YEARS AGO

Four years later Patterson joined Kelvinator's household appliance division as a regional representative in Minneapolis.

By 1939, Patterson had earned another promotion as Kelvinator moved him to Cin-

cinnati as manager of zone operations. He held this position until 1942, when he was sent to Washington, D. C., as Nash-Kelvinator Corp.'s representative for war contracts. In 1944 he was appointed western regional manager for the household appliance division with headquarters in Detroit.

In 1946 Patterson was promoted to commercial sales manager, the position he holds now as he looks forward to retirement and a new life in Florida.

## Dole Names Hansen Executive Vice-Pres., Keeler Also Upped

CHICAGO — Dole Refrigerating Co. here, manufacturer of the "Cel" line and a pioneer in the industrial refrigeration industry, has announced the election of Harold P. Hansen as executive vice president.



H. P. Hansen

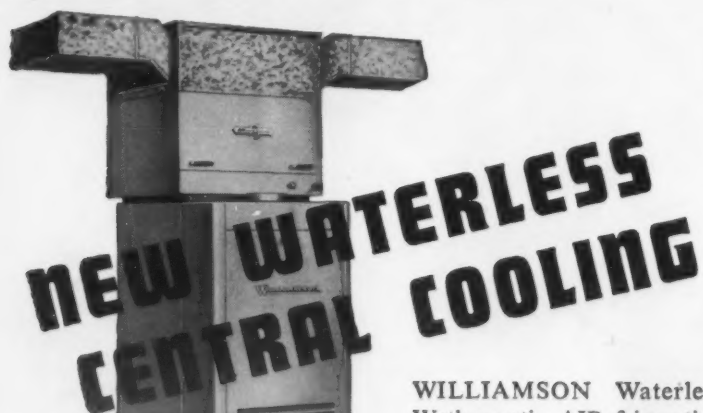
Hansen has spent 17 years with Dole, starting in the factory and progressing in to the sales department as district representative in upper New York State in 1945.

He became Canadian branch manager of Dole Refrigerating Products Ltd. of Brantford, Ontario in 1948. In 1952 he returned from Canada and was appointed general sales manager of the home office.

Hansen was appointed assistant general manager in October, 1956, by E. J. Tweed, president and general manager, prior to his election as executive vice president.

Dole Refrigerating also announced the election of George S. Keeler as secretary and assistant to the president.

Keeler was assistant in the Purchasing and Order Dept. when he joined Dole in April, 1936. In 1945, upon his return from Naval duty, he was made secretary to Tweed, which position he has held until his recent election as secretary to the company.



**NEW WATERLESS CENTRAL COOLING**

WILLIAMSON Waterless Wethermatic AIRrefrigeration units can be added quickly and easily to any residential or store forced air heating system. Choose from plenum, duct, counterflow, suspended horizontal or console types for efficient low cost operation.

- No water needed
- No sewer or water connections
- No costly maintenance
- Pre-wired for easy installation
- 2, 3, 4, 5, and 7 1/2 ton models
- Full tonnage provided

Plenum type illustrated may be installed above or below furnace.

Write for complete information today

**WILLIAMSON WETHERMATIC**

**AIRrefrigeration**

THE WILLIAMSON CO., 3320-E-7 Madison Rd., Cincinnati 9, Ohio

## new, low cost, air cooled condenser



### OFFERS GREATER OPERATING EFFICIENCY— PERFECT FOR REPLACEMENT OF WATER TOWERS!

Here is the most efficient air cooled condenser available today! The new FANDAIRE condenser offers lower first cost, lower operating costs, lower maintenance costs—all as a result of the unique circular sloped tube design which eliminates dead spots and permits 100% counter-flow and tube drainage. The unusual pyramidal fin design gives better heat transfer with less power consumption than comparable units. Available in 2, 3, 5, 7 1/2, 10, 15, 20, and 30 ton units, there's a FANDAIRE air cooled condenser to fit every application. Let FANDAIRE solve your condenser problems—write us today!

We engineer and build condensers for special applications.

AGENTS: We have some choice territories available—if you're interested in representing a really "hot" line, contact us now—

**f5** air conditioning corp.  
1815 SOUTH MAYBELLE • TULSA, OKLAHOMA  
GIBSON 7-1991



## York Promotes--

(Concluded from Page 1, Col. 4)

Chicago, to vice president and director of installation services.

Lynne, who is a C.P.A. and a graduate of the University of Pennsylvania, has been with York since 1935 in various staff assignments.

Floreth is an engineering graduate of the University of Illinois and completed the York college graduate training course in July, 1930. Since that time he has been on sales and administrative assignments in the York field organization.

Marion F. Dick, attorney for the York Div. since 1936, was elected to a new post as secretary and general counsel. Jay E. Siler, a graduate of the Thompson Business School of York and an employee since 1931, was elected assistant secretary and treasurer. He is also general insurance manager for the York Div.

### Officers Re-Elected

The following officers were re-elected: Henry M. Haase, president and chief executive officer; Stewart E. Lauer, chairman of the York Div. supervisory board; J. M. L. Joslin, vice president and director of personnel; Rodney F. Lauer, vice president and director of engi-

neering; and Austin Rising, vice president and director of marketing.

Borg-Warner officials attending the meeting who are also members of the York Div. supervisory board were Roy C. Ingersoll, chairman of the board; Robert S. Ingersoll, president; L. G. Porter, executive vice president; R. W. Murphy, vice president and general counsel; and Albert Steg, financial vice president.

During a tour of the development and research laboratories, many new air conditioning and refrigeration products were presented.

### New Products Shown

These products included a completely new line of room air conditioners and expanded line of automatic ice makers, residential and commercial heat pumps, and a new line of residential heating and cooling systems to be introduced during 1958.

The board members also observed the operation of a new absorption-type water cooling system applicable to large installations for both process cooling and air conditioning. These systems are steam powered rather than electric driven, it was noted.

Several new systems of air conditioning for multiple occu-

pancy applications such as office buildings, hotels, apartment houses, and hospitals were displayed and these systems will be introduced to the market during 1958 and 1959. Two of these systems involve expansion and refinement in the use of the heat pump principle.

"York Div. management anticipates these and other new product developments will expand the markets now being served," it was stated.

## York Move--

(Concluded from Page 1, Col. 5)

into rearranged and expanded facilities at the Grantley site. The West York facilities, which were termed inadequate and inefficient for their present purposes, might become the site of production of entirely new lines in the diversified list of Borg-Warner products, he indicated.

"York's expanding markets and positive programs for growth in the years ahead will certainly require plant locations most favorably related to the growing markets and sources of materials used," Haase pointed out.

"It is in recognition of this, that Yorkco management is fully weighing the merits of its plant locations and the degree to which existing facilities can be most efficiently utilized."

Haase added that all York products manufactured in its various factories for distribution through York sales outlets will continue to carry the York trade-mark.

## James Named--

(Concluded from Page 1, Col. 5)

1953. He had been executive vice president in charge of production, engineering, and research since 1955.

James is a 1932 graduate of the Massachusetts Institute of Technology, and his entire business career has been in the air conditioning and refrigeration industry.

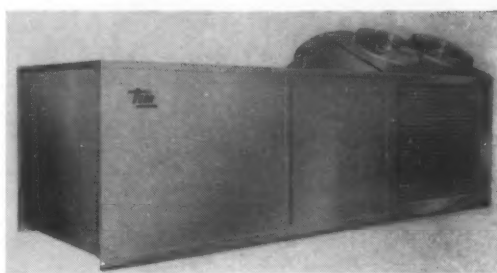
Previously, James had been associated with York Corp. for 16 years and resigned as manager of equipment development and assistant chief engineer in charge of commercial engineering, to become general manager of the Morrison, Ill. plant of Liquid Carbonic Corp., Chicago, until he joined McQuay in 1949.

Resch, who has been general manager of the McQuay plant at Faribault, Minn. since 1955, is also president of American Automatic Ice Machine Co., a wholly-owned subsidiary of McQuay. He has been with McQuay since 1939 starting as a buyer in the purchasing department, then assistant advertising manager, and next into the sales department.

Lundberg, general manager of the Grenada, Miss. plant, has been with McQuay since 1942. He has been manager of the engineering department, manager of the sales engineering department, and also assistant general manager. Prior to becoming general manager of the Grenada plant, Lundberg was also factory manager of the Faribault plant.

### Dwight A. Ward Dies

LOS ANGELES—Dwight A. Ward, founder and owner of Ward Refrigerator Mfg. Co. and president of Ward Concrete Products Co., died recently.



NEW Bohn roof top air conditioner features suction-cooled semi-hermetic compressor with built-in Betz air-cooled condensers.

## Bohn Offers Air-Cooled Roof Unit--

(Concluded from Page 1, Col. 3)

ing of the company's line.

It features a suction-cooled semi-hermetic compressor that is readily accessible for service, company officials said. The fan is especially designed to move a high volume of air at low velocities, insuring quiet operation, they noted.

The cooling coil is set at an angle to expose the maximum surface to the air stream and to insure longer contact between air and cooling coil.

The new roof-mounted unit requires only one opening in the ceiling. A combination supply and return air diffuser grille is employed that requires no ductwork.

Betz air-cooled condensers

## Trane System--

(Concluded from Page 1, Col. 4)

perature and reducing dust, the system is also expected to provide ideal conditions for precision manufacture and will help insure dust-free teletype machine products, it was noted.

"A high pressure air conditioning system will be used to reduce the cost of air distribution," the announcement said. "Velocities up to 3,500 c.f.m. (about 30 miles an hour) will be achieved while air pressure reducing valves near the outlets will control both sound and drafts. Conditioned air will be distributed through small ducts under this system, resulting in a space saving.

"About 650,000 c.f.m. will be introduced to the system through 14 giant Trane fans. The system will have eight other fans exhausting air.

"Briefly, this is how the system will operate. Chilled water from the CenTraVac will be circulated to 81 Trane six-row coil banks.

"Outside and recirculated air will be moved through the chilled coil sections, lowering temperature, reducing humidity, and filtering out air-borne dust particles. The cooled air will be sped under high pressure via small ducts to strategically located diffusing outlets where it will be distributed uniformly over all work areas. The system is designed to maintain 75°, 50% relative humidity conditions with outside temperature at 95°.

"Use of air conditioning also affected the design of the building. With air conditioning, it was possible to reduce window space to a minimum."

The Trane air conditioning equipment is expected to be moved into the building near the end of August. It will be shipped from La Crosse factories via open railroad flat cars.

J. Emil Anderson & Son, Chicago, is the designer, engineer, and builder for the new factory while the Dell Corp., Chicago, is the mechanical contractor.

## REPRINTS

Available for Readers of  
Air Conditioning & Refrigeration News

The articles listed below have appeared recently in Air Conditioning & Refrigeration News, and are now available in reprint form. We'll be glad to send you the reprints that will aid you, as long as our supply lasts. So hurry . . . order your copies.

- Electrical Characteristics of Packaged Air Conditioning Units**  
Up-to-date discussion by P. W. Wyckoff on unitary air conditioners of prime interest to manufacturers and contractors, including problems and recommendations. Only 25¢ each.
- Comparison of Refrigerants 12-22 By Paul Reed**  
A complete digest and comparison of refrigerants 12 and 22. 12 pages on trouble prevention. Only 75¢ each.
- Hermetic Compressor Design, Development**  
Henri Soumerai, Worthington Corp., traces the development of the hermetic compressor and explains design and application factors involved. Only 40¢ each.
- Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors**  
Discussion by T. N. Schierloh, General Motors' Delco Products Div. Only 40¢ each.
- Emergency Diagnosis, Repair of Hermetic Unit Electrical Components**  
John L. Zant, Copeland Refrigeration, diagnoses electrical troubles and tells how to make emergency field repairs. Only 25¢ each.
- Significance of DuPont Residential Air Conditioning Survey to Dealers**
- Cooling Systems Contract Service and Maintenance Plans**
- What Refrigerated Fixtures Are 94 Bristol Food Stores Using?**
- What Happened In Residential Air Conditioning In Wichita During 1956?**
- Builder Called 'Prime Medium' In Home Conditioning Sales**
- How To Increase Merchandising Appeal**
- What Happened To Residential Air Conditioning In 1956**
- Distributor Tells How He Got Dealers To Sell Heat Pumps—Right Now**
- Heat Pump Prospects**
- Tips On Blower Installations**

Single copies, 20¢ each. Quantity rates (25 or more) upon request.

### SEND COUPON OR WRITE ON COMPANY LETTERHEAD

Circle number of reprint and indicate quantity wanted

1..... 4..... 7..... 10..... 13.....  
2..... 5..... 8..... 11..... 14.....  
3..... 6..... 9..... 12..... 15.....

and mail to:

Air Conditioning & Refrigeration News  
450 W. Fort St., Detroit 26, Mich.

☐ Bill me ☐ Bill my company ☐ Payment enclosed

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

Zone \_\_\_\_\_

State \_\_\_\_\_

Reprints sent post-paid if payment enclosed.  
(In Continental U. S. and Canada only)

7-15-57

## Temprite

### WATER COOLERS

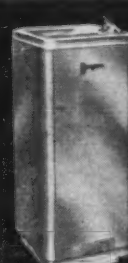
Beautifully styled. Precision engineered. 22 models from which to choose. Traditional standards of highest quality are firmly maintained. Prices remain truly competitive.



Pressure bubbler models



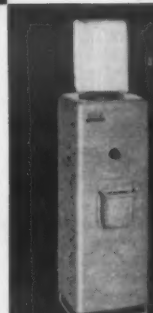
Compartment models



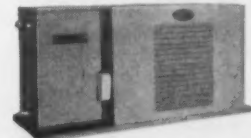
All stainless steel and explosion-proof models



Cadet models



Liberal 5-Year Warranty



Remote type coolers in 4 models from 6 to 24 g.p.h.

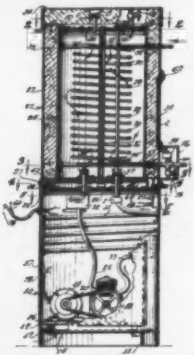
**Temprite** PRODUCTS CORPORATION  
P.O. Box 72-A  
East Maple, Birmingham, Mich.

Over 27 years of liquid cooling experience



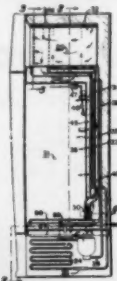
# PATENTS Weeks of May 21 and May 28

**2,792,690. WATER COOLER.** Elwin E. Flynn, Grand Rapids, Mich.



1. In a water cooling apparatus, a hollow housing including an annular side wall and a horizontally disposed bottom wall provided with a plurality of spaced apertures for the passage therethrough of air, a spring pressed platform supported above said bottom wall, a door detachably connected to said side for for gaining access to the interior of said housing, a compressor supported on said platform, a motor adapted to be connected to a source of electrical energy for operating said compressor, a conduit extending upwardly from said compressor, an annular bracket secured within said housing adjacent the upper end thereof. . .

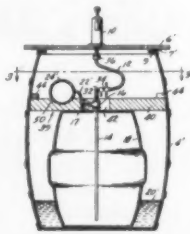
**2,792,691. TWO COMPARTMENT REFRIGERATOR.** John M. Murphy and Leonard J. Mann, Dayton, Ohio, assignors to General Motors Corp., Detroit, Mich., a corporation of Delaware.



1. In combination: a below freezing compartment; a refrigerating above freezing compartment; a refrigeration system including an evaporator and a refrigerant liquefier in refrigerant circulating relationship; air circulating means; conduit means for circulating air from said air circulating means in thermal exchange with said evaporator, into said below freezing compartment, and adjacent and in thermal exchange with said above freezing compartment; defrosting means for defrosting said evaporator; and a timer having a defrost period and a refrigerating period and stopping said refrigerating system from producing refrigeration stopping said air circulating means and causing operation of said defrosting means during said de-

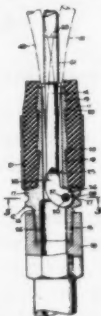
frosting period, and permitting said refrigerating system to produce refrigeration and said air circulating means to operate and stop said defrosting means during said refrigerating period.

**2,792,692. KEG COOLER AND DISPENSING BAR UNIT.** Reed A. Bryan, Fort Lauderdale, Fla.



1. A combined keg cooling and dispensing device, comprising a hollow enclosure adapted to enclose a keg within the hollow interior thereof, a keg holddown device comprising a rigid member adapted to engage against the keg for holding the latter in the bottom of the enclosure, and support means on the interior of the enclosure for maintaining said member in engagement with the keg, said member comprising a cross bar extending transversely across the interior of the enclosure, said device including keg tapping and conduit means adapted to extend upwardly from the keg, said cross bar having a central recess therein for accommodating said keg tapping and conduit means.

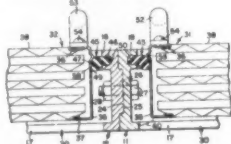
**2,792,948. COOLANT TUBE.** Roy A. Starbuck, Los Angeles, Calif.



1. In combination: a flexible hose; a nipple having a hollow stem which is inserted into one end of said hose to make a fluid tight connection therewith, said stem having a bore the outer end of which terminates in a counter-bore formed in said nipple, there being a pocket formed radially outwardly into said nipple from within the latter, said pocket being located adjacent the juncture of said bore and counter-bore, there being a pin hole formed transversely in said nipple to extend through said pocket on an axis lying substantially in the mouth of said pocket and outside of said bore; a flexible wire which takes a set when

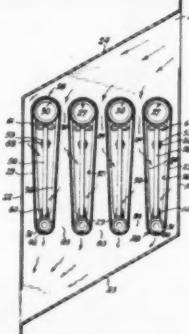
bent, said wire being substantially co-extensive in length with said hose and disposed therewithin. . .

**2,792,906. SUPPORT FOR AIR FILTER UNITS AND THE LIKE.** Reid Evans, Moline, Ill.



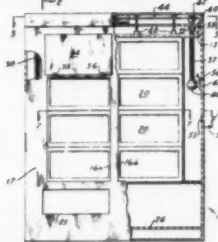
1. In an air filter, the combination of an outer peripheral supporting frame having a groove on the inner surface thereof, a peripherally extending rubberlike element comprising inner and outer bead portions joined by a reduced web section, said outer bead portion being received and retained within said groove and said inner bead portion extending inwardly of said frame and defining an opening, a filter unit having an outer peripheral surface larger than said opening and slidably insertable into the latter, thereby causing said inner bead portion to roll into a deformed position and stretched into firm contact with the outer surface of said unit serving both as a peripheral seal between said unit and said frame and as the sole support of said unit on said frame.

**2,792,907. DUST COLLECTOR.** Edward H. Replogle, Eggertsville, N. Y.



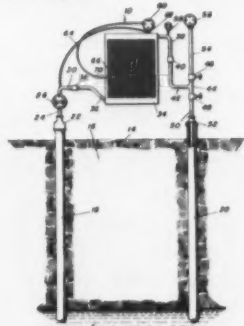
1. In a dust collector, the combination comprising a drive roller, a stationary blow tube arranged in spaced and parallel relation to said drive roller and having a curved external surface and a movable endless filter sleeve passing around said roller and tube and engaging therewith, said blow tube having a port extending the length of said sleeve and covered thereby and arranged in said curved surface and adapted to discharge a pressurized gas through said filter sleeve as it is flexed in passing over said curved surface.

**2,792,908. FILTERING MEANS.** Clarence J. Glanser, Houston, Texas.



1. A filtering device for a mechanical draft ventilation system comprising, a housing adapted to be secured in a mechanical draft ventilating system, said housing having a passageway therethrough to permit air to pass through the device, an elongate guideway for positioning a plurality of filters in edge-to-edge relationship across said passageway to filter air passing therethrough, a hopper adjacent the mouth of the guideway for storing a plurality of individual filters. . .

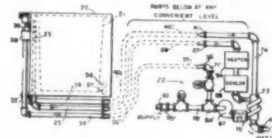
**2,793,004. HEAT EXCHANGER.** Alex J. Schumann, Mankato, Minn., assignor of one-tenth to John H. Brinkman, Mankato, Minn.



2. An air cooling system for use in conjunction with an underground water source, said cooling system comprising a first well casing forming a supply casing, a second well casing forming a return casing, a circulating pump connected to said supply casing for drawing water therethrough, an air cooling

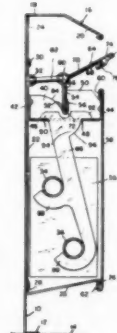
heat exchanger, first piping connecting said heat exchanger to said pump, second piping connecting said heat exchanger to said return casing, vacuum producing means connected to certain of said piping for initially placing all parts of said system under a vacuum, said heat exchanger having an upper part, means connected to said upper part for removing excess air from said system. . .

**2,793,005. AUTOMATIC TEMPERATURE AND WATER REGULATION FOR PHOTOGRAPHIC DEVELOPING.** Robert J. Wagner and Francis L. Macaluso, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army.



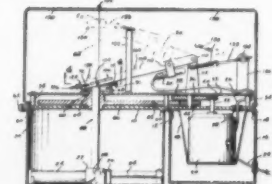
1. Apparatus of the character described comprising a principal tank having a waste outlet at a predetermined high liquid level therein, a water supply and a duct line from the water supply to the tank, a first valve in said line for controlling flow of water from said supply to the tank, means responsive to low water level in said tank to open said valve, a water-conditioning alternatively exothermic and endothermic heat exchanger operatively associated with said duct line, means in said duct line responsive to a predetermined exception temperature condition in the water in said duct line in relation to a predetermined mean temperature required and including said heat exchanger to transfer heat correctively to and from water in the duct line according to the variation from said mean. . .

**2,793,007. BASEBOARD RADIATOR STRUCTURE.** Gilmer L. Reynolds, Pontiac, Mich., assignor, by mesne assignments, to National-U. S. Radiator Corp.



1. Baseboard radiator structure comprising a wall plate adapted to be fixed to a wall just above a floor, said plate having a flange extending forwardly from the top thereof to provide a hood, a plurality of vertically extending sheet metal straps secured to the front of said plate and having their lower portion extending forwardly substantially above the bottom edge of said plate, sheet metal brackets fixed to said plate and extending forwardly therefrom beneath said hood, said brackets each comprising a forwardly extending vertical web, a laterally extending mounting flange at the rear edge of said web, a laterally extending stiffening flange at the bottom edge of said web, and a laterally extending panel-support flange at the front edge of said web. . .

**2,793,505. PADDLE-OUT ICE CREAM FREEZER.** Donald M. Finch, Hayden, Ariz.



1. In an ice cream freezer, a support, an ice cream mix container having an open top, a side wall, and a bottom wall, said container being removably secured to the underside of the support, a vertical rotor shaft slidably and rotatably mounted on said support, said rotor shaft having an upper portion located above the support and a lower portion located below the support and in said container, a paddle rotor fixed on said lower portion of the rotor shaft. . .

**2,793,506. REFRIGERATING APPARATUS WITH MOTOR DRIVEN CENTRIFUGAL COMPRESSOR.** Arthur M. G. Moody, La Crosse, Wis., assignor to The Trane Co., La Crosse, Wis.

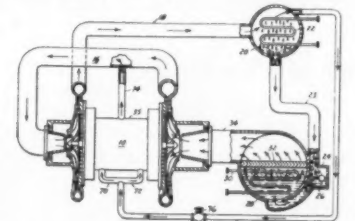
1. In a refrigerating apparatus, the combination of an evaporator for vaporizing refrigerant, a condenser for liquefying refrigerant, a two stage compressor for circulating refrigerant through said evaporator and condenser, a cross-over conduit for conducting refrigerant from the second stage of the compressor to the first stage of the compressor, a motor for driving said compressor, a fluid tight casing enclosing said motor, said fluid tight casing

**Editor's Note:** Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Copies should be ordered by number and title and a mention of the fact if they are either Designs or Reissues.

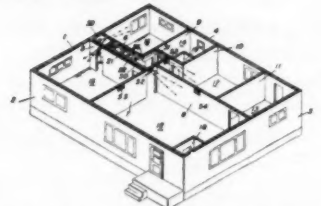
Address orders for any of the above to: Commissioner of Patents, Washington 25, D. C.

being in fluid tight engagement with said compressor, a first conduit connected to said condenser and to said fluid tight casing for conducting re-



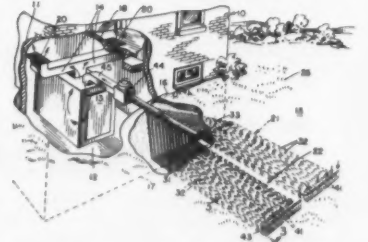
frigerant gas from said condenser to said fluid tight casing, a second conduit, connected to said fluid tight casing and to said cross-over conduit for conducting refrigerant gas from said fluid tight casing to said cross-over conduit whereby refrigerant gas flows through said fluid tight casing to remove heat from the motor.

**2,793,508. HOUSEHOLD AIR CONDITIONING SYSTEMS.** Moritz L. Mueller, Silver Spring, Md.



1. In a human occupancy building, a plurality of walls including outer and inner walls defining a room and an enclosed space separate from said room and including a lower zone adapted to be used as a closet and an upper zone, an air conditioning unit in said upper zone including a condenser coil and an evaporator coil mounted in separate chambers sealed from each other and from said lower zone, means for circulating air from outside the building through an outer wall and said condenser coil comprising a duct extending from an opening in said wall direct to said condenser coil, and means for conducting air in a separate circuit directly from said room through said evaporator coil for conditioning thereby and thence back into said room, said separate circuit excluding said lower zone of said enclosed space.

**2,793,509. METHOD OF AND APPARATUS FOR COOLING INHABITABLE AND OTHER ENCLOSURES.** Victor I. Keen, Evanston, Ill.



1. In a cooling and dehumidifying system for inhabitable enclosures such as buildings and the like, in combination, means in the vicinity of said building providing an artificial evaporation bed consisting of an expanse of porous material capable of absorbing moisture, a heat exchange device substantially completely embedded in said evaporation bed, said heat exchange device comprising a manifold conduit having one end closed and having its other end in communication with said enclosure, a plurality of elongated open-ended conduits each having one end thereof in communication with said manifold conduit and having its other end in communication with the ambient atmosphere, and a blower operatively connected to said manifold conduit. . .

(To Be Continued)

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

### POSITIONS AVAILABLE

**DESIGN AND development engineer** with education and experience suitable for work on refrigeration and air conditioning controls. Expanding markets demand an expansion of our engineering work. Join us, and help meet these challenges. Benefits for patents, educational subsidies, and other employee benefits. Modern air conditioned engineering facilities. Located in the Middle West. Reply in confidence giving details of education, experience and salary requirements. **CONTROLS COMPANY OF AMERICA** (formerly A-P Controls) 2450 No. 32nd Street, Milwaukee 46, Wisconsin.

**WANTED: MANUFACTURER'S representative** to sell "Eastonair" solid-type air freshener and odor neutralizer product on a liberal commission basis. Protected territories available plus active sales promotion program. Send complete information about yourself to Sales Manager, **EASTON R. S. CORPORATION**, 876 Pacific Street, Brooklyn 38, New York. Write today.

**NATIONAL MANUFACTURER** of commercial refrigeration products located in Southeast needs refrigeration engineer to assist chief engineer. Supermarket fixture experience helpful. Sub-

mit resume of qualifications and expected starting salary to BOX A5814, Air Conditioning & Refrigeration News. All replies held confidential.

**MANUFACTURER'S REPRESENTATIVE** for well known line of compressors, condensing units, packaged water chillers and cooling towers 5 to 60 tons. Knowledge of air conditioning necessary—a number of important territories are now available. No objection to heating or other compatible lines. Write fully. BOX A5823, Air Conditioning & Refrigeration News.

### BUSINESS OPPORTUNITIES

**WONDERFUL OPPORTUNITY** for one or two ambitious service men to take over well established refrigeration sales and service company. Best of franchises, distributorship on some. Company has best of reputation. Established in community 43 years. Buyer can take over all accounts, commercial and industrial with immediate income. Two can net \$16,000.00 yearly. New shop, truck and equipment, good inventory of fast moving parts. Total cost \$20,000.00. Beautiful 6-room country home available with this business sale if desired. Financing available on both. Located within 50 miles of Detroit in very stable community. BOX A5832, Air Conditioning & Refrigeration News. All correspondence treated confidentially.

### MISCELLANEOUS

**ATTENTION SERVICEMEN:** Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: **WALTER W. STARR**, 2833 Lincoln Avenue, Chicago 13, Illinois.



## Servicing Automobile Air Conditioners

(Vol. 2)

BY C. DALE MERICLE

In response to numerous requests, the NEWS has resumed the popular series on automobile air conditioners. Latest models (1956 and/or 1957) of makes covered in the earlier articles, plus additional ones, will be included in this new series, which will describe units of leading "independent" producers as well as automobile manufacturers.

This series, which began in the June 24 issue, opened with a discussion of the A.R.A. auto air conditioner. The current instalment concludes the discussion of Artic-Kar units.

### ARTIC-KAR (2)

Capitol Refrigeration Mfg. Co.  
3922 Kalloch Dr.  
Dallas, Texas

#### Controls

Controls on all 1957 Artic-Kar models consists of three-speed blower or fan controls and a thermostat which cycles the magnetic clutch and thus the compressor as cooling is required.

A pilot light is provided on all models to show when compressor is operating.

Pushbutton controls are offered on some models, notably the deluxe Iceberg under-dash unit (Fig. 1). These controls are mounted on right side of cooling case assembly.

Adjustable thermostat is located in center of Iceberg case between the air outlets. The thermostat knob has an "off" position, but the manufacturer of Artic-Kar units recommends that the thermostat be left on, though at the highest setting, even during the winter. This will cycle the compressor occasionally and thus minimize possibility of a refrigerant leak through the compressor seal.

If thermostat is turned to "off" position during the winter, the manufacturer suggests the system be turned on about once a week to keep the compressor seal lubricated.

Controls of the Penguin under-dash unit are mounted on the cooling case or on a separate

panel attached to the dashboard, depending upon the car.

Controls of the Polar front-end system are located either in a separate panel attached to the car dash, or, if the car manufacturer has made provision for same, in the dash itself.

Husky and Alaskan trunk model controls are in a panel attached to the lower side of the dash in most cars. With the trunk models, however, the thermostat which cycles the system is not on the control panel but in the cooling case assembly.

Thermostat on Husky and Alaskan models is adjustable, access to it being through the parcel shelf.

Artic-Kar has coined the names "PolarMatic" and "Temp-Trol" for its compressor and temperature control systems.

### SERVICE HINTS

#### Evacuating System

Use of a good vacuum pump is recommended by the manufacturer as "the best method" of evacuating an Artic-Kar system.

With such a vacuum pump hooked up to the discharge service valve through a gauge manifold, the system should be pulled down to a 30-in. vacuum before allowing Refrigerant-12 to enter the system for leak testing.

An alternate method of evacuating the system is to operate the car engine at idling speed with (1) compressor clutch engaged, (2) discharge service



FIG. 1—Deluxe "Iceberg" model in 1957 Artic-Kar line has pushbutton controls.

valve front-seated and gauge port plug removed, (3) suction service valve back-seated, gauge port plug removed, and compound gauge attached, and (4) a length of tubing running from discharge service valve into a glass jar containing refrigeration oil.

When bubbles cease to show in the jar of oil and the compound gauge reads 28 in., the system will be properly evacuated.

#### Charging System

Refrigerant-12 is employed in all 1957 Artic-Kar units.

Charge is 2 lbs. in the two under-dash models and the Polar front-end system; 3½ lbs. in the two trunk models. Absence of bubbles in sight glass also indicates complete charge.

These systems are charged through the low side.

After charging, the car engine should be run at the equivalent of 30 m.p.h. and the charge checked by examining the sight glass.

Oil level in the Lehigh V-93 compressor should be checked also. This is done by inserting a 1/16 in. steel rod through oil filler opening in top of compressor between cylinder heads with the crankshaft key way at top center position.

Before the compressor is installed the oil level should read 1⅜ in. After compressor has been operated several minutes and then pumped down until both gauges read 0 p.s.i.g., oil level should be not less than ¾ in.

#### Operating Pressures

Operating head pressures on Artic-Kar systems may be less than the experienced serviceman might normally expect.

This is a result of the heat exchanger formed by having the suction and liquid lines in con-

tact with each other their full length.

#### Trouble Chart

The following is intended as a guide to servicing 1957 Artic-Kar conditioners:

##### No cooling.

This complaint can be the result of any one or a combination of the following:

1. Broken compressor drive belt.
2. Blown fuses in electrical connections from car ignition system.
3. Loose electrical connections.
4. Fan motor failure.
5. Failure of magnetic clutch.
6. Failure of thermostat.
7. Loss of refrigerant charge.

8. Evaporator coil blocked by ice.
9. Thermostatic expansion valve plugged by ice, foreign matter, or otherwise inoperative.
10. Faulty compressor.

##### Insufficient cooling.

This complaint can be the result of:

1. Compressor drive belt slipping.
2. Shortage of refrigerant.
3. Overcharge of refrigerant.
4. Condenser air passages blocked by dirt, bugs, etc.
5. Air in system.
6. Low water level in car radiator.
7. Faulty compressor.
8. Magnetic clutch slipping.
9. Thermostat setting too high.
10. Loose electrical connections.
11. Clogged air filter.

##### Pilot light won't go off.

This can be the result of constant operation of compressor due to various conditions outlined above, or pilot light wiring may be shorted.

##### Pilot light won't go on.

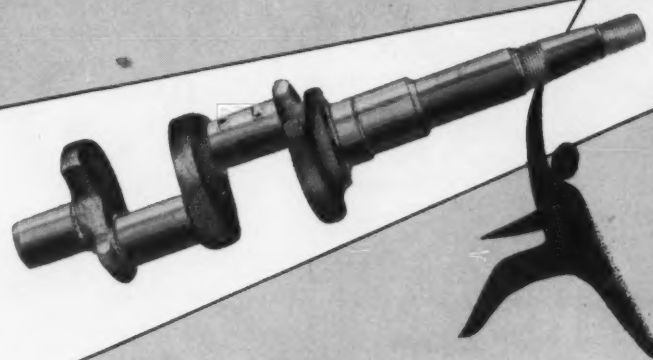
This can be result of system failure as outlined above, or pilot bulb itself may be burned out.

(Next instalment will discuss Frigette auto air conditioners.)

## SHAFTS by MODERN

Shafts by Modern now power compressors for the leading lines of commercial refrigeration and air conditioning units. For precision SHAFTS, in quantity, consult us. Send blueprints for quotation.

SINCE 1924...



Modern Machine Works, Inc.

Pioneers in Shaft Manufacture

5354 S. KIRKWOOD AVENUE

CUDAHY, WISCONSIN

## Schnacke Thermatrol COOLING TOWERS

#### PCT FEATURES

- Blow through dry fan & Motor
- Simplified, compact, Symmetrical Construction
- Easy access for Service
- Sizes 3 to 50 Tons

At a NEW LOW PRICE!

#### Models PCT — for outdoor installation

Propeller type-blow through design assures dry fan and motor—plus more symmetrical appearance and increased efficiency. Excellent air delivery requires less horsepower. Quality, time tested design and construction. Attractive multi-color green finish over etching type primer assures corrosion resistance.

Models SCT—with centrifugal fans also available for duct installations.

Write for prices and brochure.

Made by Experts in the Refrigeration & Air Conditioning Field

SCHNACKE, INC.

EVANSVILLE 7

INDIANA

Edwards

## CO-AXIAL FREON CONDENSERS

-- give high efficiency, counter flow performance with these outstanding advantages:

- Use 35% less water
- Cost savings of 30% to 40%
- ½ to 7½ ton sizes from stock—
- No internal joints
- Easy installation
- Many compact shapes

#### USED BY MAJOR EQUIPMENT MANUFACTURERS

Contact our engineering department for FREE technical assistance, regarding your specific installation requirements.

Send for catalog TT-653 TODAY

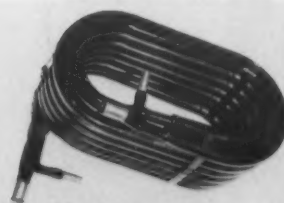
EDWARDS ENGINEERING CORP.

101 ALEXANDER AVENUE • POMPTON PLAINS, NEW JERSEY

Telephone TERHUNE 5-2808



TYPICAL COMPACT FLAT SPIRAL SHAPE



COMPACT HIGH CAPACITY TROMBONE SHAPE



## New York Strike-- So. Calif. Sheet Metal Strike--

(Concluded from Page 1, Col. 3)

just what type of equipment he could use in much of his work.

Among these proposals is one which states that "employer shall NOT purchase any material for Air Conditioning Systems other than fans, blowers, etc., without contacting Local Union No. 28." (It is said that the union is pressing a demand that all air conditioning equipment installed in its jurisdiction be fabricated in the metropolitan New York area).

The next two provisions request that "all ventilators and louvers to be in the roofing and sheet metal sections of the contracts of the heating contractors" and that "employers NOT to figure work unless the above section is complied with by the builder, architects, and engineers."

Another proposed contract change calls for "full discussion of the use of substitute materials, and if same is to be used, that a six-hour work day with seven-hours pay shall be invoked on all jobs wherein such substitutes are used in lieu of rigid sheet metal duct or fittings."

It is also proposed by the union "that any and all conduits used for the purpose of conducting supply air, conditioned air, or exhaust air shall be in the jurisdiction of the sheet metal worker to fabricate and install, and that any masonry and-or tile conduit shafts or plenum chambers used for the distribution of air circulations shall be recognized as work in the jurisdiction of the sheet metal workers."

However, one sheet metal union official to whom the NEWS talked said "all such provisions will likely go 'out the window' if we can settle on a wage increase."

Industry representatives, however, feel that the union is trying to drive a wedge to control not only working conditions, but the types of materials used.

### Fedders Electric Sign Salutes Ethel Merman In Spectacular Manner

NEW YORK CITY—Fedders-Quigan Corp.'s huge electric spectacular sign on Times Square now includes a continuous running message in salute to Broadway singing star Ethel Merman. Copy reads: "Fedders salutes Ethel Merman, star of 'Happy Hunting' . . . official hostess of the 1957 New York City Summer Festival."

This special spectacular treatment is claimed to have put Miss Merman's name "bigger, brighter, and higher than anyone else's in show business history."

AT YOUR  
WHOLESALE  
**KESCO**  
AUTOMATIC  
CONDENSATE  
WATER  
DISPOSAL  
**PUMPS**  
MODELS  
FOR ALL  
AIR  
CONDITIONERS  
ICE CUBE BINS  
DRINKING  
FOUNTAINS  
Mfg. &  
Guaranteed by  
**Kesco Products**  
EST. 1944  
P.O. Box 84  
SPRINGFIELD  
GARDENS 13,  
N. Y.



(Concluded from Page 1, Col. 2)

which is a 10% increase over a two-year period.

Following suggestion from Fenton, next meeting was scheduled for Monday, July 15.

Court hearing on sheet metal trades administrative council petition for permanent injunction against employers who might act independently in settling with the union, set for Tuesday afternoon, was at that time set over for heating Friday, July 12.

Council spokesmen said they expected to obtain the permanent injunction to maintain their bargaining integrity. Such an injunction has been granted by Judge Bayard Rhone of Superior Court on petition of plumbing, heating, and piping employers council in their strike relations with plumbers and pipefitters.

Refrigeration journeymen are

not affected. They are working under a contract negotiated earlier this year, it was explained.

Both employer groups are represented by Carl Gould, attorney, in the injunction proceedings. He maintains where an association of employers represents an industry year in and year out in relations with a union, the union cannot, upon disagreement over terms of a contract, ignore the industry association and make separate and different agreements with industry members.

Gould said a union should no more make individual contracts with employers than an employer is permitted to do with his employees when they are represented by a union.

Sheet metal trades administrative council claims the strength of contractors has been

proved. Out of 600, only 23 signed with the union, it was stated.

Council administrator Henry B. Ely said legal action in preparation is to prevent the 23 from working, and to collect damages as a result of their activities outside regular collective bargaining with the union by the council as legal representative of the employers in the industry.

Newspapers have been stating court injunctions are the case of no negotiations on either side. Ely does not agree. He said bargaining has been going on, and will continue.

### To Condition Court

MERIDIAN, Miss.—Air Comfort Engineering Co. of Meridian was the low bidder with \$19,913 for air conditioning the court room, judge's room, and petit juror's room of the U. S. Post Office and Federal Court House here.

### Philco Files B.t.u.h.

### Ratings for Room Units

WASHINGTON, D. C.—Capacity ratings of its 1957 room air conditioners in terms of B.t.u. per hour in accordance with ARI Standard 110-56 have been filed with the Air-Conditioning & Refrigeration Institute by Philco Corp., it has been announced.

The ratings were announced according to the following:

Model	Nominal Hp.	B.t.u./hr. Capacity In Accordance w/ARI 110-56
A 873-2	3/4	6,800
A 882-2	3/4	5,800
284	3/4	8,700
288	3/4	8,700
A 1071-2	1	8,400
A 1071-11	1	10,100
A 1072-2	1	8,400
A 1072-11	1	10,100
A 1072-23	1	10,100
A 1074-2	1	8,400
A 1074-23	1	10,100
A-1077-2	1	8,200
A 2072-23	2	17,000

## For Looks • Long Life • Low Installation Cost

### CHOOSE THE LARKIN (YEAR 'ROUND) AIR CONDITIONER

5 MODELS—2 TO 10 TONS



### Ideal for:

STORES BARS  
SHOPS GRILLS  
OFFICES RESTAURANTS  
BAKERIES FLORISTS  
CLINICS

### Cools or heats • De-humidifies Filters • Circulates Air

Here is Larkin's answer to the ever-increasing demand for year-round comfort conditioners. When you see it . . . when you compare it . . . when you price it . . . then you will understand why we say it is another triumph for Larkin—manufacturer of air-conditioning equipment for nearly 25 years.

See your wholesaler today for complete information about the all-new Larkin Comfort Conditioner. Write us for the name of the one nearest you—for descriptive literature.



"Originators of the Cross Fin Coil"

**LARKIN COILS INC.**

519 MEMORIAL DRIVE, S.E., ATLANTA, GEORGIA

### FEATURES THAT SELL AND SATISFY

- Larkin air-conditioning coil—eight fins per inch, continuous fin, staggered tubes, for highest efficiency and lowest operating cost
- Compact cabinet, all-steel, rust-resistant, beautifully finished with baked-on enamel
- Fiber-glass insulation
- Pressure-type, centrifugal, dynamically balanced, forward curved fan wheels
- Frictionless, self-aligning bearings completely encased in Neoprene
- Resilient base motors on adjustable mounts
- Two-direction, adjustable discharge grille
- Easily removed, throw-away filters
- Heating coils for use with steam or hot water
- Slotted hanger bars
- Easily installed, easy to service
- Backed by the engineering skill and manufacturing reputation of Larkin Coils—one of America's leading makers of commercial and industrial refrigeration and air-conditioning equipment